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Courier

PUBLICATION OF THE UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

UNESCO

VOLUME V — No. 1. — JANUARY 1952

WORLD NEWSPRINT FAMINE

Trees destined for the pulp mill are guided down river in Canada, the world's largest producer of paper. (See pages 2 and 6-13.)

(Photo National Film Board of Canada.)

Courier

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Imprimerie GEORGES LANG
11, rue Curial, Paris.

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A full year's subscription (12 issues) costs only $1*, or 5s. or 200 French Francs.

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United States of America : Columbia University Press, 2960 Broadway, New York.
Uruguay : Centro de Cooperacion Cientifica para la America Latina, Unesco, Bulevar Artigas 1320, Montevideo.
*** $1.50 in the U. S. and Canada.**

Signed articles express the opinions of the authors and do not necessarily represent the opinions of Unesco or the editors of the COURIER.

Reprinted in U. S. A. by Photo Litho
Manhattan Printing Co., New York

The printed word and the world paper crisis

WORDS and images printed on paper have been the means by which men and women in all countries have most often and most widely made contact with one another across geographical distance and through historical time.

The wisdom of the ages, and the thoughts and feelings of the human beings who made or preserved it, have come to each new generation largely through books printed on paper. Education has from time immemorial depended on such books—old and new. And in our own era of great development of communication among masses of men, the exchange of factual information through words printed on paper has become a vital element in the mutual understanding among peoples which is the very foundation of peace and progress, as well as of the enrichment of civilization itself.

New means of mass communication have evolved and become enormously important—films, the radio and television. But, with the steady advance of the struggle against illiteracy and with the advance of new forms of education, of the exchange of knowledge and information, books, newspapers and periodical publications have also taken on added importance. And it remains true that more men, women and children in the world depend upon words and images printed on paper for their information and knowledge than on any other means of mass communication.

Hence, the availability of paper—for newspapers, for books, for similar exchanges of facts and ideas—is a matter of deep and immediate concern for practically every person in the world, and certainly for all national groups, for all forms of society.

Unfortunately there is a serious lack of balance between the available supply and the growing need for newsprint—the kind of paper used for newspapers. Moreover, there is also a grave discrepancy between the need and the use of newsprint—a lack of harmony in the distribution.

The effect, in technical respect, of the relative shortage and of the inequitable distribution of newsprint is to raise prices, hence to make this basic wherewithal of information even less available in precisely those vast areas of the world which need it most — those areas where the struggle against illiteracy con only go forward with books, and the paper to print those books. And the general effect is to deprive many millions of men and women of the chance to find out what they need to know about the world in which they live.

Lack of the paper to carry the message of information means lack of the awareness, the interest and the sense of participation and personal responsibility that play so large a role in sound citizenship. Limitation of education inevitably penalizes progress; and since it is in the minds of men everywhere that the foundations of peace must be laid, the shortage of newsprint acts as a brake on the co-operation of all peoples toward a just and durable peace.

For the past few years, Unesco has been studying various factors related to the distribution of the world's paper supply. It has assembled the facts on the production and consumption of both newsprint and printing paper and made these facts public. Acting on a resolution voted by the General Conference of Unesco last year, the Director-General asked the Secretary-General of the United Nations to place the newsprint problem on the agenda of the Economic and Social Council. This was done. In August, 1951, ECOSOC adopted a resolution proposing both short-term and long-term action. It directed an appeal to the main consumers of paper to reduce slightly their consumption, and to producers to expand their production. A recommendation was also made to governments to draw the attention of their nationals to this appeal and to the desirability of voluntary co-operation. The Food and Agriculture Organization was requested to continue its studies and research into forestry resources, so as to indicate measures for increasing production, including the use of substitute raw materials. During the FAO conference in Rome last November and December, a series of decisions was approved to decrease and gradually overcome the present deficit of newsprint and printing paper. (*Details of these decisions will be found on page* 13 *of this issue.*)

Today, a new kind of hunger is spreading across the globe. For have not books, magazines, newspapers and every category of printed publication been called the chief nourishment for the human mind? The new hunger is robbing millions of men of their mental nourishment. Only planned world action can halt it.

TO OUR READERS

Despite increased production costs, the price of the COURIER has remained unchanged during the past year. The sharp rise in the cost of paper and printing in recent months has, however, made it impossible to continue publication at our present rates. We regret to inform our readers, therefore, that after March 31 1952, new rates will go into effect as follows:

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IT HAPPENED IN A TINY VILLAGE

by Georges FRADIER

THERE is a little village far from the beaten track in south-east France where the name Morel has been common for centuries, so that each generation has had to find new nicknames to distinguish between them. Today, for example, there are Morel-from-up-the-hill, Lame Morel, Curly-headed Morel, Morel the Deputy Mayor and so on. But the village blacksmith, although aged 46, had to wait until last year before he had the most high-sounding nickname of all conferred upon him : "Equality" Morel.

It is no use asking "Equality" Morel how he got the name. He will just shrug his shoulders and say, "Oh, it was just a joke," and then, bending over his anvil, smile to himself and say no more.

You can, of course, ask the other village people, provided you have patience and time to spare, for their explanations are sure to include a fund of reminiscences as well as their considered views on farming policy, the local elections and the future of the co-operatives. It is better to go and see the Mayor, who knows how to keep to the point of a story.

Sitting in the café opposite the village post office, the Mayor will start on the story once he has filled his pipe and taken a sip of *pastis*. "Well," he tells you, "Morel got the name because of the poster about Human Rights and the business of Blanchette. Blanchette was a Negro working on the threshing machine. You know, all sorts of fellows work on these threshing gangs. They come from the north and the south; often they don't even speak French. The people round here have seen Poles, Italians, Spaniards and Arabs before, but this was the first time there'd been a Negro in the village.

"Well, complaints started to come in at once. A couple of chickens were stolen from a farm — they said it must be the Negro. A rabbit was killed on another farm — the Negro again. If the weather turned bad, it was all because of the Negro. You would have thought that Blanchette was the devil himself. In fact, one Sunday, an old maid came up to me: 'Aren't you ashamed,' she cried, 'to let this devil stay in the village? We are all afraid to go out at night.'

"Such foolishness did not really matter very much, and Blanchette's employer insisted that the Negro was a good worker and never caused any trouble, and I think that things would have calmed down. But one day something worse happened in the village : a hay stack caught fire and burned to the ground.

"Who do you think it belonged to? Why, the old maid, of course. This time the real trouble began. The police came along and questioned everybody, but since they couldn't find any real evidence about the cause of the fire, they couldn't accuse anyone.

"The people here, of course, all said it was a waste of time to hold an enquiry. Everyone believed that Blanchette had started the fire, and for three days the Negro's boss had to be his bodyguard. Then, what I had been afraid of, happened. A full-scale delegation, led by the women, came marching up to the town hall. Quite honestly I couldn't see the use of resisting any longer. Blanchette's employer was fed up, and the only thing he felt he could do was to pay the poor chap off and send him away to shift for himself elsewhere.

"Well, at that point, Morel turned up. I never thought I'd see anything like it in the village. The hall was packed; the women were chattering; the men were muttering. In comes Morel and sits down beside me. 'Antoine,' he says, in a loud voice, 'If you do this, you're a swine,' and, thumping his fist on the table, 'And the rest of you, too.' What a grand sight it was. The others tried to interrupt him, calling him all sorts of names, but he shouted them all down and in the end they had to listen to him. I never knew he could talk so well.

" 'You're accusing a man,' he said, 'you blame him for every crime that's committed. Why? Have you any evidence? Have you caught him red-handed? No, of course you haven't. Your only reason for suspecting him is that his skin isn't the same colour as yours. Now, why don't you just stop to think for a moment?'

"'We have thought!' one woman called out. 'This is a free country. We've every right to get rid of anyone we don't like. You never know what such people may be up to.'

"Morel burst out laughing. 'So that's what you think,' he said, 'you think you're entitled to send off a poor workman to starve just because you don't like the look of him? Well, since you're talking about rights, I'll show you what rights mean.' And with that he took down a poster that the schoolmaster had got from Valence, and which had been put up on the wall for some reason or other. It was the Universal Declaration of Human Rights.

"'Here,' says Morel, 'here's a declaration that our Government and dozens of other Governments have signed. A Universal Declaration. Its meant for everybody — every man and every woman Article 1.' And he began to read out Article 1. But he didn't read it like a lawyer. Oh, no! He was furious as he read it ! Then came Article 2. It was about all human beings, you know, free and equal, without distinction of race, colour, etc. He read it slowly and even translated it into our *patois* to make sure that it was understood. It was grand to watch, I can tell you."

By the time he gets to his third *pastis,* the Mayor is even more enthusiastic. "It was really magnificent," he says. Then he relights his pipe and goes on, shaking his finger for emphasis ; "And would you believe it; he actually managed to calm the people down ; he got them laughing and made them see that the whole thing was ridiculous. The people round here are a very decent lot. In a week's time, they were tumbling over themselves to offer Blanchette a drink. All the same, Morel had upset a few people with his speech; those who nicknamed him 'Equality' Morel did not mean it as a compliment. But he'd proved his point and the nickname stuck."

The moral of this story may be obvious, but it needs emphasizing, especially when one remembers that there are many people who, looking at the Universal Declaration of Human Rights, shake their heads sadly and comment, "A fine set of principles, but they haven't had much effect." True, no text by itself can accomplish a miracle, but the world could hope for a great deal from this particular text if enough men were willing and able to use it in the manner of "Equality" Morel.

THINGS ARE LOOKING UP IN THE 'FORGOTTEN VALLEY'

by Tibor MENDE

In 1947, the Government of Haiti and Unesco inaugurated a pilot project in fundamental education —that is, education to achieve better living standards—in the Marbial Valley region of this island republic. This year, the Haiti project became part of Unesco's programme of technical assistance for economic development. Now educators from Haiti and Unesco are working to make it a laboratory where teaching methods and materials can be tested under practical conditions before they are placed into general use. In order to get a first-hand picture of conditions in Marbial, Mr. Tibor Mende recently visited the Valley during a trip to Central and South American countries on assignment for Unesco. The article published below is the first of a series which will appear in the Courier on Latin America.

PHOTO : PICTURE POST, R. S. KLEBOE

THE rain stopped, leaving the tropical vegetation which enveloped the wooden building swollen with fresh water. Three youngsters had been sheltering on the verandah, talking seriously, while the water dried up a little. Now, we started to talk together, their Creole resembling French as much as my French their Creole.

Toulin Jeremi, a boy of 12, was holding a piece of cow-horn in his hands and Elid Daglin, a curly-haired girl of nine, had her copy-book. The third of the group, Job Lerich, the tallest and oldest of the three, stood by, listening with all that aloofness of the most experienced. After some hesitation, they admitted that they were talking of their plans for the future.

The girl proved to be the most communicative. They were talking, she said, of a store in the Marbial Valley where they live. She would be the *couturier*, taking charge of dresses; Job would make sandals; while Toulin was a born merchant and would arrange matters very successfully. But Toulin hastened to add that he too had his speciality, and proudly showed the cow-horn in his hand. With the help of the instructor, he explained, he had started to make combs, and now he could finish one in half-an-hour and sell it for 15 cents. Elid, with a bright smile, interrupted him: "He's already selling them to the local hairdresser, and even in Jacmel. For this one, he has been paid in advance...", and her little brown face was shining with pride for all three of them.

These three young Haitians were children of the Valley. Their parents and grandparents lived between the steep hills rising on both sides of the Gosseline river. Trivial as this chat with the three children seems, there was something about it that was as new and as startling in this sad valley as if the denuded hillsides had suddenly turned green again. That something was hope.

The name of Marbial is little known, even in the Caribbean area. It is a forgotten valley. It has neither villages nor hamlets, and its people, living in their scattered wooden huts, are no part of any community: they are merely the folk of Marbial. They have to work hard to keep alive. A few decades ago, as the older ones still remember, life was much easier. Since then tropical disease, soil erosion and over-population have combined to spread ignorance and misery.

Trees have been cut down and the once blossoming hillsides are barren; meat has become a rarity; children grow up illiterate and their parents have to make almost superhuman efforts to try to pay off debts and feed their increasing families. Most families own or rent three to five acres of land, and grow coffee for sale at the Jacmel market; but they must clear more and more of the coffee groves to produce maize and other foodstuffs for themselves. While the population of the valley nears the 30,000 mark and the land is sub - divided among the children in ever smaller parcels, there is more and more exhausted land and the valley has been slowly dying.

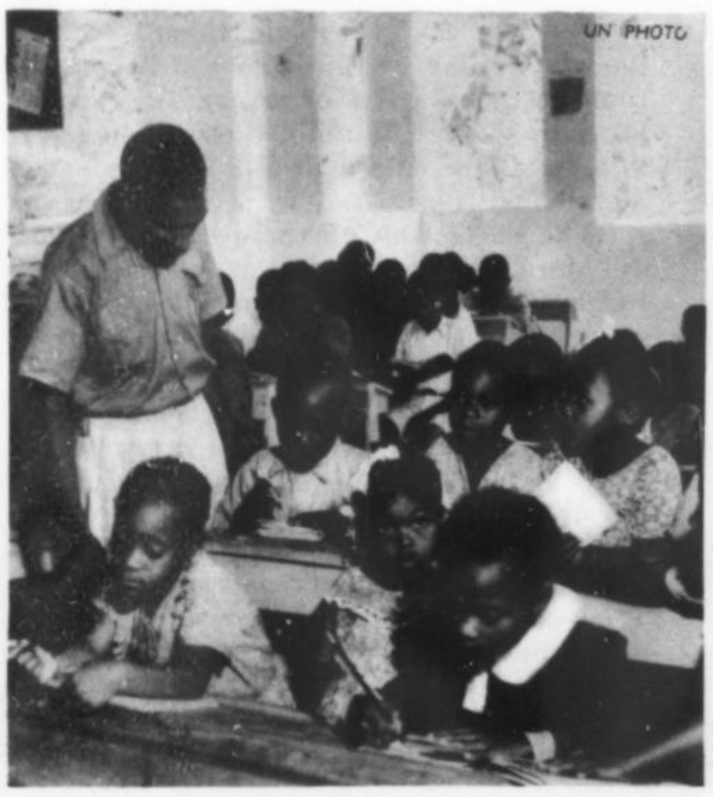
In this picture of desolation, the practices of Christianity are but a thin veneer over the old African traditions. The terrors of the supernatural world, of voodoo and magic, are still important in the lives of the people of Marbial. But none of these practices helps to provide what is so deeply needed in this atmosphere of deterioration —hope.

There are some craftsmen among the people of the valley, such as leather workers, tailors and basket-makers; but their main job is on the land, and their craftsmenship only provides for the needs of the neighbourhood. If Elid wants to make dresses, Job to learn tanning and make sandals, and Toulin to make combs, there is nothing very unusual in it. What is new is that they are thinking of trade with the town, of combining to create a store, that they display an awareness of things beyond the valley, and that they are building plans for the future. The new realization of wider horizons beyond their valley, the unconscious search for something new for a better future —these are new. They show that these three young Haitians, in one of the forgotten corners of their country, have re-discovered what their parents lost long ago : hope.

To reach the wooden verandah where the three were discussing their plans called for a rough journey of several hours in a jeep. From Port-au-Prince the road leads across plantations and forests, hills and ravines; often it disappears under the thick tropical vegetation. Or you can fly in a quarter-of-an-hour from the capital to Jacmel, where the plane lands on a meadow studded with thatched cottages, without a runway. From there, along neglected roads, it is another hour's drive to the Valley. After the rains the river is often too swollen even for the jeep, and the traveller has to mount a horse to cross it. Poor communications have made it difficult to bring hope to Elid, Job and Toulin.

When Unesco first decided to start a pilot-scheme for basic education in Haiti, the Marbial Valley seemed the least promising place for such an experiment. It was a courageous decision to launch the experiment among people bent under the weight of a merciless

Children in the Marbial Valley get lessons in Creole, the language which most Haitians speak. This big noticeboard at the entrance of the Unesco Experimental Centre says, in Creole: "Unesco Centre 'Amikolat' at Nâ Mâgo". Nâ Mâgo is a village on the road to Marbial.



UN PHOTO

PICTURE POST

RESULTS HAVE BEEN SLOW BUT UNMISTAKABLE

nature, rather than taking the easier road. It meant that no quick or spectacular results could be expected; but it also meant that, in case of success, it would provide experience which would prove invaluable in a variety of other tropical areas faced with similar obstacles and difficulties.

Today, after barely three years of work, the decision seems to have been justified. The results have been slow, but they are unmistakable and have probably been achieved more quickly than was generally expected. The verandah on which the children's conversation took place surrounded the project's centre: their confidence was a small and symbolic indication of what the project was achieving.

From a small solitary building, the centre has grown into a group of hutments, carrying out a variety of activities, all in a modest way. It now has a primary school with two classrooms and meagre equipment for its 105 pupils aged between six and 16. A doctor holds a clinic four times a week, a dentist receives patients once a week, and the people of Marbial are getting used to the idea of qualified medical aid. They accept this as one more example of the usefulness of the centre in their daily lives, and on the morning of the appointed days long rows of patients queue up between the banana plants in front of the doctor's building.

There is a small stock-raising station which gives practical demonstrations under expert guidance of better ways of poultry and pig-raising, thus showing the local farmers how they could appreciably improve their living conditions. Its vegetable nurseries and afforestation school meet a similar need.

The activities of the Unesco experimental station are discussed in the adult educational classes and the results achieved are made known to the population by word and picture, by pamphlets and leaflets written in simple language. In tiny workshops, under the guidance of local specialists, groups of students learn sisal and mat making, tanning and basketry. Later, pottery-making will be taught. There is plenty of clay in the Valley, but up to now nothing has been done to utilize it, though potteries could contribute to the meagre income of the population.

The credit co-operative, launched with the help of a small Unesco loan, is making good progress. Begun in June 1950, it already has over a hundred members and, apart from its practical benefits, its open discussions help members to air their grievances and encourage them to take an interest in the improvement of their community. The co-operative's meeting, usually attended by the local priest, is convincing proof that the self-reliance and resourcefulness of the peasants can be improved with a judicious appeal to their self-interest as well as to their co-operative instincts. More recently a regional committee was organized, and it is fast becoming a democratic discussion forum where constructive proposals are examined and analysed by the very people who would carry them out.

While the new building of the social worker's centre is under construction, 19 small centres in the open air are in operation. The shaded and simple wooden benches of these "classrooms" are used by over 800 people, with an average attendance of 40 adult pupils for each group. Twenty student-teachers, selected by competition, get a token salary of $10 a month, while the others come voluntarily before or after their daily work in the fields. Conventional subjects like arithmetic and history are taught, as well as practical subjects such as hygiene, soil improvement and domestic economy. The pride of the centre is Visciere Pierre, a woman of 42 who learnt to read and write there and, in her anxiety to disseminate her newly acquired knowledge among the people of the valley, is busily preparing for her new role as a social worker. She goes around and talks to people about the great work ahead and encourages them to follow her example.

Added to a variety of other activities — like the regular spraying of houses with DDT, the building of pit-latrines, the hygienic cleaning-up of markets and the construction of an abattoir to prevent the bleeding of slaughtered animals into the river — the centre is making progress in the Marbial Valley. People are displaying growing confidence in the centre. No longer do they just regard it as another "official" building to do things for them; they realize that the centre is there to help and guide them to achievements by their own efforts.

In growing numbers they come to the clinic and to the dentist and discuss their personal problems with the members of the centre. As a typical example, the female equivalent of the medicine-man in the valley, the woman who used to help at child-birth, is now attending the clinic to complete her education with a few bits of "real medicine". More and more of the people of the valley send their children to the centre with confidence and its gardens and buildings are gay the whole day long with children in classes, or workshops, or at table-tennis.

And now two merchants from the neighbouring town of Jacmel have decided to establish branches in the valley. "This is the first time a merchant of Jacmel has taken any interest in us," a voluntary worker boasted to me. "What is more, once a week a bus has started to come to the valley..."

And so, what were originally reticent and suspicious peasant greetings have now turned into friendly smiles when the people of the valley meet someone from the centre. A new feeling is developing among them; the incredulous growing belief that, after all, the people of "the forgotten valley" are not abandoned.

Photos by Picture Post and Paul Verger

None of Haiti's railways go to the "forgotten valley." You must travel by jeep, or get up on a mule—or walk, with your basket on your head.

UN Photo

At last the isolated Gosseline river comes into view...

Picture Post

... and you see the inhabitants of the valley.

Picture Post

PAPER, THE PRETEXT

by P. L. BRET

IF we put aside myths and assumptions, our civilization rests on certain fundamental acquisitions. Among them are those corner-stones of our age, the achievements of technology, which smooth and regulate our lives, enable us to move easily from place to place, ensure our wellbeing and simplify, yet complicate, our work; all this for good or ill, according to whether we make them our servants or our masters.

Take paper, for example, whose beginnings seem almost like a fable.

What must have been the astonishment of man when, after long endeavour to perpetuate his name in stone or other mineral substance, he first held in his hand this pulp, product of his ingenuity, with its instant appeal to his mind. He must have felt the delight of a child who wins a game, but fear, too, of that blank surface in which can be discerned the duplication of the self, a mirror in which the reflection outlives the original, in which expression has to discover its rules and work out its forms, a miraculous springboard off which the mind will plunge, silently and alone. Through tentative gropings, clumsy reflections of everyday life, the written word, by dint of toil, adapts itself to human speech. Joy inspires songs, fear engenders myths, until at last we get the first thoughts that reveal the man himself, alike friendly and hostile to the world about him, proud of controlling events and of mastering time, transforming the past into the present, the present into the past, and proposing that the future shall preserve the record of these changes.

Then scattered thoughts make room for systematic thinking. The age of simplicity is past. Pride reverts to humility. "Alas, for my glad thoughts of yesterday," cried Nietzsche, "what have I done with you? What has become of you?" Self-knowledge is a labyrinth from which no one can find the way out; the enchanted path pursues its tortuous way, the writer a prey to alternating moods of rapture and despair.

But writing leads to reading, and we can imagine the first reader as we did the first writer — she was probably a woman and certainly inquisitive — turning back and forth the page on which another hand than hers had traced signs that convey the sound of the writer's voice and the movement of his lips with a subtlety known only to the author.

Who can say if the inventor of paper was not tempted to preserve his secret, to keep this mute and indulgent confidant to himself, this unfailing memory, this evidence now made lasting by paper? But the key to dreams was surrendered. We shall never know at what cost, nor what part was played by vanity, fear, ambition and curiosity in that very ordinary yet crucial colloquy by which the secret was extorted — a colloquy that never took place.

Thus author and reader were born. The presence of another person was no longer needed for the communication of ideas. Man could speak to man, yet be alone, provided he had this link with his fellows. This is one of the world's great miracles.

Its effects were prodigious. Paper and the written word broke over the world like a tidal wave. And, with them, men's brains were set awhirl by the products of genius and stupidity, vileness and sublimity. Their minds became distraught by anxiety, swayed to and fro by contradictions, now bound by earthly chains, now exalted to the skies — all at the whim of paper.

For writing means choosing.

Or rather, it once meant choosing, both for author and reader. The choice was between truth and falsehood, beauty and ugliness, good and evil, with no other guide than a man's own judgment, and this became more and more incapable as writing grew more complex and more specialized, creating a language of its own, understood only by the initiated. "One used to be able to read", Lucien Febvre says, "and to read nearly everything worthwhile in one's own field. Nowadays it is impossible to read even the essentials. And, what is more, one doesn't want to. One is surfeited before one begins."

Does this mean that paper is leading us from daylight into darkness?

"The idol of Progress", writes Valéry, "has its counterpart in the idol of anti-Progress, and that gives us two clichés." And it is true that the pendulum always swings back.

Ortega y Gasset's "Torrent of Books", the avalanche of imbecile publications and the sacrifice of quality to quantity, have made paper so scarce, that unless we deliberately choose nonsense, circumstances will force us to pay heed once more to the voice of reason and good taste. We shall be driven to sacrifice some of our frivolity in order to safeguard education and science, on which our future depends, and to bring the blessings of reading and writing to the millions who know nothing of either. Surely it is remarkable that the sale of "serious" books is going up, while the sale of light reading falls off. This is an unforeseen result of the rise in the price of books. People do not want to pay as much for a book bought to pass the time as for one of lasting worth. Authors themselves, knowing that their public matters more and more and that their publishers are quite aware of it, try to polish up a manuscript that may sell, rather than dash off three books that will find no readers.

The number of specialists who indulge in esoteric language and in jargon is increasing. But, in terms of human beings, the man who tries to understand is more important than one who has understood. What matters is the attitude, the thirst for knowledge, the direction a man gives to his enquiries and his need for an answer.

Paper, as a factor in this dialogue, is only the pretext. An aid to expression, we wrongly identify it with expression itself and bless it or curse it as such. Actually it remains the passive tool in its master's hands, who alone can be held answerable for the use made of it.

Whether it is ideas or confetti, the product of an author or of a lawyer's scribe, platitude or conceit, a poem or wrapping-paper, an engraving or a photograph, posters or transfers, cigarettes or lithographs, postage-stamps or wallpaper — paper unwinds itself about our lives like a streamer, from the registration of our birth to the signing of our death certificate.

Thoughts cannot be expressed without a material basis, but it is not to be supposed that evolution stops or that paper is the ultimate form of invention. Others, at present only foreshadowed, will follow.

In future ages, it may be that man will express himself by groups of coloured sound-waves, which, replacing the disconnected utterances of our day, will merge in a complete unity of thought and tone. Transcending the limits of worn-out words, we should thus attain to a more perfect form, which, opening up new horizons to the mind, would impart to it a renewed vitality.

A fragment of paper of the Eastern Han period (A, D. 25-220), the most ancient paper known to exist in the world. *(British Museum)*

Photo René Zuber

FROM FOREST TO PRINTER

As soon as man invented ways of expressing his thoughts through drawings and characters, he began to look around him for "something to write on." Among the first substances which came to his hand were bones, stones and wood, after which he turned to slabs of clay or metal. He tried fabrics, then palm or papyrus leaves and finally animal skins, from which he obtained parchment — a material which some lawyers in Europe and America continued to use until the 19th century.

But, all these writing surfaces had one drawback or another. Those that were neither bulky nor liable to deterioration were found to be very expensive. A bible printed by Gutenberg on parchment, for example, required the use of 300 sheeps skins. The Chinese, prolific writers and remarkable calligraphers, progressed rapidly, however, from the use of bones and tree barks to that of bamboo and silk, and in the first century A.D. they used slim rods, rather like Venetian blinds, to make books.

It was the rapid development of calligraphy by Chinese scholars and their adoption of the camel's hair brush and fluid pigment that produced the need for a writing substance that was cheaper and more practical than woven textile.

This urgent need for a new writing surface inspired the Chinese eunuch Tsai Lun to proclaim, in A.D. 105, his marvellous invention of true paper — a thin felted material formed on flat, porous moulds from macerated vegetable fibre.

The Chinese were quick to realize the importance of this discovery, and Tsai Lun was venerated almost as a deity by succeeding generations of his countrymen. The manufacture and use of paper spread with amazing rapidity and the records of the following centuries contain many references to its employment, not only for writing and bibliographical purposes, but for

(Continued pages 8 and 9)

PAPERMAKING TOOK OVER 1000 YEARS TO SPREAD FROM CHINA TO EUROPE

(Continued from page 7)

ornamental use in Chinese houses and temples in the farthermost corners of the Empire.

The art of papermaking took a long time to cross frontiers, however, and it was only at the start of the 7th century that the secret of the production methods as used in Korea, then a part of China, was learned in nearby Japan. The Japanese used it about the year 770 for preparing printed charms at the order of the Empress Shotoku and thus produced the world's first printing on paper.

Towards the West the spread of knowledge about paper took even longer, for the Celestial Empire kept the manufacturing process a closely guarded secret.

In 751, however, a battle was fought by the Chinese in Turkestan on the banks of the Charaz river. Among the Chinese taken prisoner there were a number of skilled papermakers and their captors set them to work. By the year 900, paper was being manufactured in Egypt and two centuries later in Fez, Morocco, from where the craft travelled to Spain.

The first papermaking mill was set up at Jativa in the province of Valencia, and in 1150 the geographer El-Edrisi said of the city: "Paper is there manufactured, such as cannot be found anywhere else in the civilized world, and is sent to the East and to the West." The papermakers were mostly Jews who carried on their work under the protection of the Caliph. They continued to enjoy this protection under the new authorities after the province of Valencia was reconquered by Jaime I in 1238 A.D.

Thus it had taken over 1,000 years for papermaking to spread from China to Europe where the early paper was regarded with disfavour, being higher in price and more fragile than parchment, which had hitherto been used for making books. Paper was distrusted also on account of its introduction by "infidels." In 1268, however, a paper factory was set up at Fabriano, near Ancona, Italy, and soon became very prosperous. "From Fabriano," proclaimed the city's coat of arms, "paper is sent all over the world." This was the result of the improvements brought to the manufacturing processes by Italian craftsmen. By the end of the 13th century, twelve sheets of paper cost the same price as one sheet of parchment, thanks to these craftsmen. Other mills were set up at Bologna, Cividale, Padua, Treviso and Genoa, and the renown of Italian paper spread as far as Asia.

The French and the Germans continued for a long time to buy this paper. In France it seems that the first centres for papermaking, at Troyes and Bar-le-Duc, were not set up until about 1348. Shortly afterwards in Nuremburg, Senator Ulman Stromer built a mill with the assistance of skilled Italian workers who, in 1391, tried to organize the first strike in the history of papermaking. The industry as a whole developed slowly and it was often the sudden increase of local needs that brought about the construction of plants. A typical example was the one set up by the General Assembly of Basle.

The discovery of printing, or rather, the introduction of printing in the West towards the middle of the 15th century, gave a powerful boost to the paper industry, and in the battles of humanism, of the Reformation and the counter-Reformation these arms were widely used.

In England, however, paper continued to be despised. It was only towards the end of the 16th century that a German, John Spelman, one of the goldsmiths to Queen Elizabeth, managed to open a business which quickly prospered.

Prior to this, the Dutch had built a mill at Dordrecht. They took advantage of the distress caused in Germany by the Thirty Years' War and of the mistakes made by France after the revocation of the Edict of Nantes. By the 17th century, Dutch paper was considered to be the finest in the world, and it was at Amsterdam that the papermaker, Wilhelm Rittinghausen, studied the craft before emigrating to America, where he set up a paper mill at Germantown, Philadelphia, in 1690. His mill, however, was not the first in the New World, where since 1580, "a mill with a hammer in which paper is made" had been functioning at Culhuacan, in Mexico. And, in any case, the Mayas had already discovered how to make paper centuries before.

By the end of the 17th century paper was being manufactured in all the countries of the West, and, with a few modifications, it was being made by the same methods and under the same physical difficulties as those experienced by the workers who produced the first true paper for Tsai Lun in China, fifteen centuries earlier.

Even in our mechanized age, the processes used in the making of paper are basically the same. The raw material — bamboo, rags, straw, bark or coniferous wood — still has to be softened and ground. Pressing and drying remain essential. As in the Far East, the vatman continues to be the most important worker in the small-scale production of high-class paper; he it is who withdraws the mould which has been plunged into the pulp, and then shakes it so that the fibres fall in perfect formation. He is assisted

FIVE STEPS IN MAKING PAPER

No matter what kind of paper is made there are five steps that must be followed in order to produce a sheet of uniform strength and quality from the cellulose fibre of a tree or other plant. These five steps are :

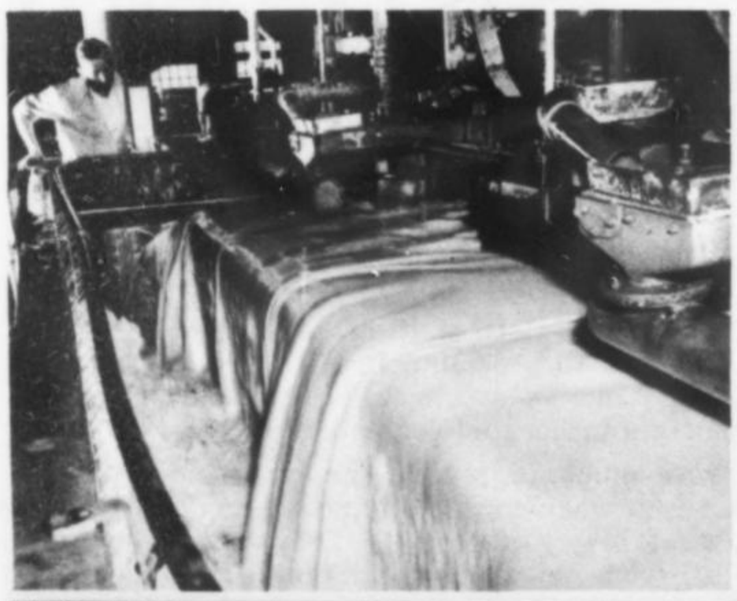
1) separate the cellulose fibre from the raw material.

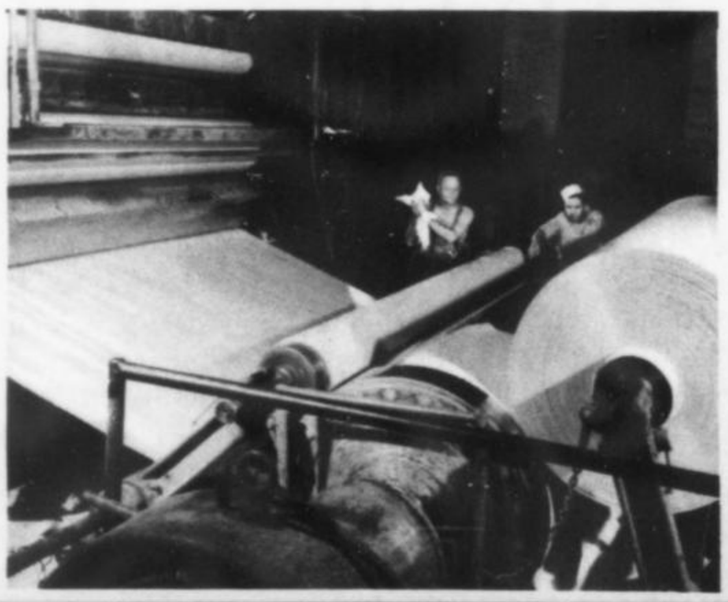
2) reduce the fibre to a watery pulp.

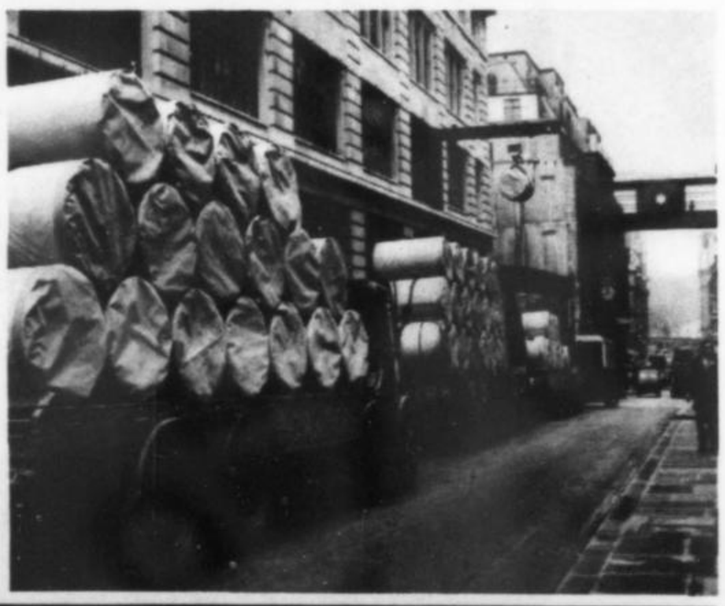
3) "beat" the pulp until the fibres are of the required thinness and are thoroughly mixed with certain materials or chemicals.

4) form a "web" of paper on a fine sieve which lets the water run through but holds the solid parts in a thin, even layer on top.

5) dry, smooth and finish the paper web in various ways.





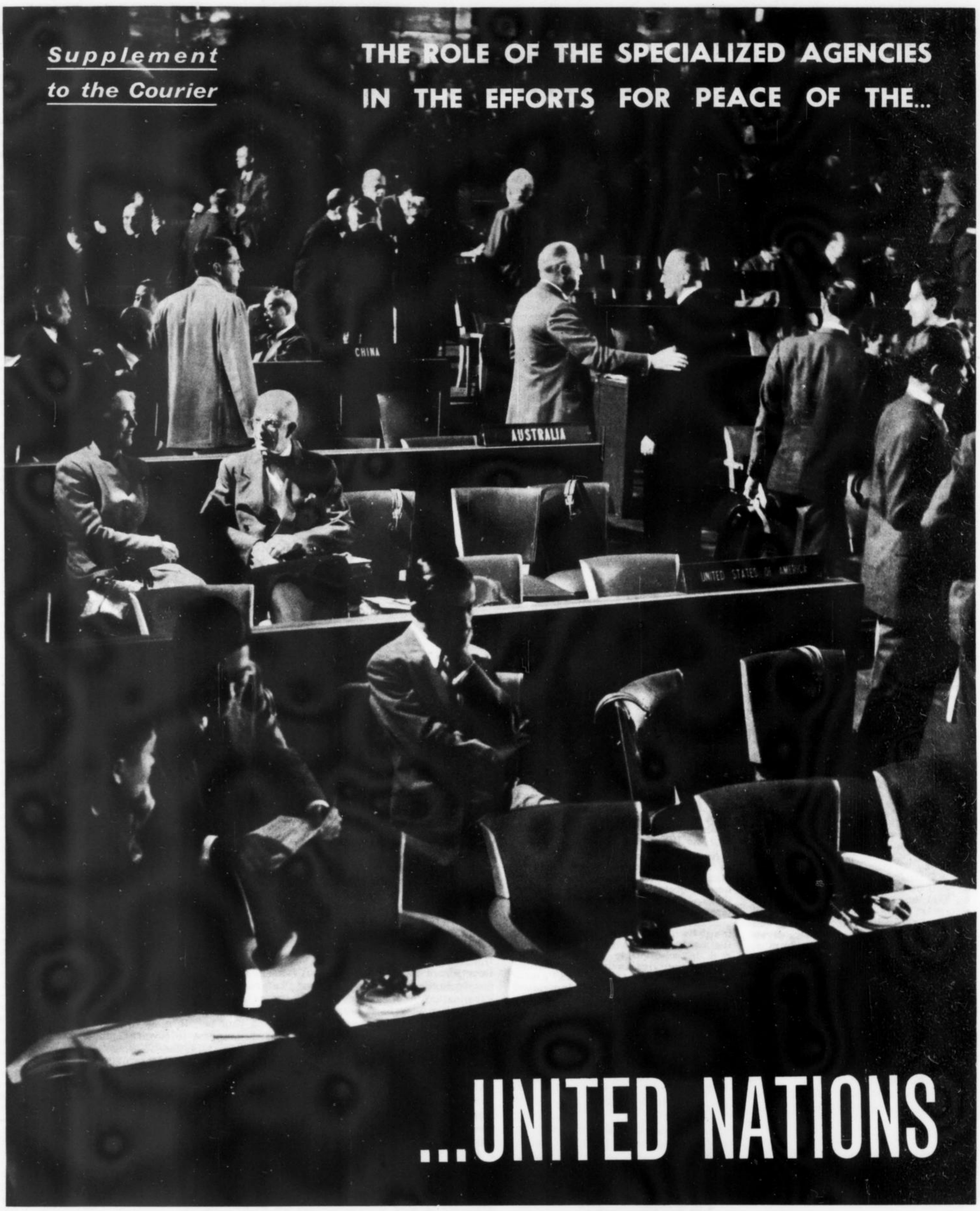


During its journey from forest to printing works, a tree undergoes many changes. These photographs show wood pulp production, rolls of newsprint being wound, and their delivery to a newspaper building, where they will be transformed into " tomorrow's newspaper ".

(Photographs copyright The Bowater Paper Corporation Ltd and The National Film Board of Canada).

Supplement to the Courier

THE ROLE OF THE SPECIALIZED AGENCIES IN THE EFFORTS FOR PEACE OF THE...



...UNITED NATIONS

On the morning of November 9, 1951, the Directors-General of four of the 12 United Nations Specialized Agencies addressed the full Plenary Session of the General Assembly, meeting at the Palais de Chaillot in Paris. Dr. Brock Chisholm of the World Health Organization ; Mr. David A. Morse of the International Labour Organization ; Mr. Norris E. Dodd of the Food and Agriculture Organization ; and M. Jaime Torres Bodet of Unesco explained how each of these agencies is helping to contribute to the United Nations' efforts for world peace. In this supplement we present abridged texts of these addresses. Illustration (above) shows delegates at the General Assembly in Paris a few minutes before a Plenary Session begins. *(Photo Almasy.)*

WORLD POLITICAL EVENTS AND UNESCO

by Jaime **TORRES BODET**

AS I rise to speak, and to greet you on behalf of Unesco, I cannot help thinking of the day in September 1947 when, as leader of the Mexican delegation, I had the honour of addressing the General Assembly for the first time. The world had just emerged from the war. Out of the ruins, amid splendid dreams, peace was striving to establish itself. The various agencies of the United Nations were in their infancy. I thought it appropriate then to emphasize that the mission of the United Nations and that of the Specialized Agencies in the common task of securing peace was basically the same.

In that belief I accepted, in the following year, the office of Director-General of Unesco. Passing thus from the service of my own country to the service of an international organization, from politics to administration, I felt that I was remaining true to the same cause — the cause of peace founded on economic and social justice and on the intellectual and moral solidarity of mankind — of peace, in short, which would depend not merely upon Governments but upon the peoples of the world.

Certainly I cannot forget the disappointment and the anxieties of the last four years. But precisely because these difficulties are piling up in the political sphere, it is imperative to reaffirm that peace is not a purely political phenomenon. It is also conditioned by economic, social, intellectual and moral factors, less spectacular than the political ones, perhaps, but not less important. The more obstacles the United Nations system encounters on the political plane, the more desirable it is that its efficiency should be manifested in other domains, where the concrete needs and the real aspirations of men in the last resort reside.

That is exactly what the Specialized Agencies are trying to do. They set out to combat certain evils : hunger, disease, ignorance and want, faced with which every man, to whatever country or party he may belong, feels the same need for help or the same brotherly urge to help others.

Two peculiarities distinguish Unesco from the other Specialized Agencies. More than any of the others, it is directly affected by

Continued on page 4

GOOD HEALTH CANNOT GROW IN A BARR ECONOMIC AND SOCIAL SOIL

by Dr. Brock CHISHOLM
Director-General, World Health Organization.

THE very philosophy which in 1945 gave birth to the idea of a world-wide health organization and which led to the establishment in 1948 of WHO as one of the Specialized Agencies of the United Nations embodies a clear understanding of the intimate relationship that exists between health and peace. There is in this philosophy an explicit recognition of the fact that efforts to raise standards of physical, mental and social well-being are at the same time steps which lead toward the achievment of collective security and enduring peace.

The WHO Constitution, which has now been accepted by 79 States, proclaims that "the health of all peoples is fundamental to the attainment of peace and security." It further declares that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition" and that these principles "are basic to the happiness, harmonious relations and security of all peoples."

The organization which was built on these fundamental concepts is today only a little over three years old. Despite serious limitations WHO is already carrying out an impressive number of important international projects. If we consider them together for a few minutes, I am sure that the same questions will occur to all of us : What are the lessons which our common action against disease and for better health has taught us so far? And, above all, what has WHO been able to contribute to the cause of peace?

The first lesson which we in WHO have learned is, I believe, that true co-operation between individuals and nations sincerely devoted to the common cause can never fail. There are already many cases in the records of our young organization which go to prove this. For example, there is the astonishing progress made by a number of countries in South-East Asia and in the Americas as well as in other parts of the world against one of the worst age-old scourges of makind : malaria.

In many places this progress has been buttressed through help given by WHO and UNICEF in the form of international demonstration teams. In some countries, after barely two years of such demonstration work, projects affecting the health and well-being of hundreds of thousands of people have already been taken over and expanded by the governments. This is a source of great satisfaction to us, since our aim is to help countries to help themselves.

As in malaria control, so also great progress is being made in many countries, with assistance from WHO, in combatting the venereal infections and tuberculosis which for centuries have claimed millions of victims each year. In the field of public health administration 27 countries have asked for and received help through WHO during 1951 alone. This year, too, there are joint UNICEF/WHO programmes under way in 16 countries for improving the health of mothers and children.

One of the most important functions of WHO is to promote the exchange of scientific information so that knowledge and skills acquired by any one country become available to all others. In this connection I could cite the 12 major teaching and training projects being carried out at the present moment or the 498 fellowships which have been awarded this year by WHO to specialists from more than seventy countries for study abroad. I might also mention the world-wide importance of the International Pharmacopoeia which, published, a few days ago, marks the culmination of 14 years of work by experts from many countries.

My list of examples could be continued almost indefinitely; but I prefer to bring it to an end by telling you in slightly more detail the story of just one of many activities, one which aptly illustrates the fact that the seeds of international co-operation, once well planted, are certain to grow and bring forth fruit.

Early in its history WHO considered how it could help meet the need for more widespread knowledge of modern techniques in anaesthesiology. Individual consultants were sent, first to Austria, in 1947, and then to Poland and Finland in 1948. By 1950 interest had grown so strong in the Scandinavian countries that a training centre to serve this area as a whole was opened in Copenhagen, jointly operated by WHO and the University of Copenhagen.

As the work of this training centre in anaesthesiology became known, other countries outside the Scandinavian group began to send students there. Indeed, Yugoslavia, France, Greece and Israel wished to have similar training centres set up in their own countries. The work of the centre was therefore broadened and, in addition to all the Scandinavian countries, included physicians from Switzerland, Greece and France. In the same year we sent individual consultants in anaesthesiology to Yugoslavia, Israel and Turkey. During 1951 this work has been continued in Israel and started in Iran. The beginning of 1952 will see consultants at work in Ceylon, in Burma and in Thailand.

From a very small beginning WHO's activity in this one field has spread from country to country on the common ground of need, so that within just these few years since 1947 seventeen countries have gained tangibly in knowledge and skills with which to protect and promote the well-being of their peoples.

What, you are entitled to ask, is likely to be the enduring significance of the various kinds of work which WHO has initiated around the globe? In at least two important respects we can give, even now, very concrete and very categorical answers to this question. First, through the existence of a world health agency the suffering of millions of human beings in scores of countries will be alleviated and many, many thousands of lives will be saved. Second, the movement of doctors, nurses, sanitary engineers, etc. from one country to another under the auspices of WHO, the actual teamwork of specialists coming from different regions with differing social and cultural backgrounds, is resulting in a valuable cross-fertilization of ideas and in establishing strong emotional and intellectual bonds across international boundaries.

All this creates conditions which are unquestionably favourable to the development of harmonious relations and mutual understanding among the nations. But can we go beyond this and say flatly that the work being done now by WHO is a major contribution to the cause of peace? I think not — at least not under present circumstances and not unless we make certain reservations. And this brings me to the second lesson which I believe we have learned from the brief experience of our work in WHO. It is a lesson which, like the first one, has important implications for the whole of the United Nations system.

In attempting to evaluate projects we were carrying out, we quickly discovered the fallacy of equating health work with health progress, let alone with progress in ... sense. Let me put this ... crete terms. Suppose ... able to report tomorrow ... pox had been brought ... for the first time among ... population of, say, 3,000,000 ... or that certain countries ... of anti-malaria campaigns ... creased their total man ... equivalent of the work ... persons per year. When ... the progress and how ... fine it if the 3,000,000 ... freed from smallpox were ... living in a state of semi- ... ignorance? And what ... the extra labour power ... through these countries ... themselves of malaria?

It could, of course, ... in more unemployment ... greater misery than before ... sufficient capital ... assured, unless those ... certain of markets for their ... their labour, unless there ... on greater educational ... opportunities for them ... their children, then the ... of their achievement will ... health, any real gain ... greater physical, mental ... well-being, will diminish ... of disappearing altogether.

We of the World Health Organization will never ... stressing at every opportunity ... our work, and health will ... ral, cannot be carried out ... in a social, economic ... vacuum. When we say ... we point to the close ... between health and economic ... are merely emphasizing ... the sensitive plant of ... cannot grow in a barren ... and social soil.

I am quite certain ... in the other Specialized ... will agree when I stress ... all possible co-ordination ... efforts on both the inter-... the inter-government level ... mark the various projects ... cialized agencies on a ... they appear in far too ... as isolated tiny pin-points ... separate, their impact ... would probably never ... much. But if we succeed ... those pin-points together ... combine health with social ... and political projects in ... association, and if we ... long-term view reaching ... or twenty years, but ... generations into the future ... may expect great ... values to result from ...

In this connection I must ... words about the UN Expanded ... gramme of Technical Assistance ... Economic Development ... because this programme ... a concerted, combined ... economic problems of ... underdeveloped areas, ... considered as one of ... vitally significant of ... ponent parts of the ... are building towards ... new world of peace, ... plenty for which all ... I sincerely hope that ... armament expenditure ... from the international ... still holds the world in ... not interfere with this ... gramme for economic ... — a programme which ... sally applied and not ... the capacity of countries ... it, can become the ... tool of our policy for ...

The question of ... me to the final point ... like to make here with ... future of our joint ... not too much to say. ... the most serious ... WHO during the past ... the lack of participation ... of countries in its work ... achieve our aims unless ... countries which have ... active support to WHO ... and unless those will ... after playing an important ... establishing the organ ... seen fit to discontinue ... cipation in it. The ... World Health Organization ... all political and ... ferences. It is therefore ... that any nation could ... stand apart from the ... mankind to bring about ... and, through it, greater ... earth.

All of us who work in ... ed Agencies have a ... in peace — a vested ... we share with you and ... peoples of the world ... hind our common effort ... fident that your work ... will advance still further ... creation of conditions of ... understanding which ... make it possible for ... economic and social ... peace, security and ...

BETTER WORKING CONDITIONS FOR LABOUR

by David A. MORSE
Director-General, International Labour Organization.

THE General Assembly will be called upon during the present session to take further decisions concerning the proposed Covenant on Human Rights and its implementation. The International Labour Organization will continue to give its full co-operation in the consideration of those rights which constitute its special responsibility.

Four years ago the General Assembly asked us to proceed with the adoption of an International Labour Convention on the protection of trade union rights, and two years ago the Economic and Social Council asked us to establish a fact-finding and conciliation commission which could conduct an impartial examination of allegations concerning the infringement of trade union rights. The Convention was adopted by the International Labour Conference in 1948 and it is now in force for the 12 Governments which have ratified it, but widespread further ratification is still necessary to make the Convention an effective safeguard for the protection of trade union rights throughout the world. I therefore appeal to the Governments which have not yet ratified this Convention to give it urgent consideration.

The fact-finding and conciliation commission has been established but it can function only with the consent of the Governments concerned. Hitherto no Government has given its formal consent to refer to the commission questions concerning it. The governing body is taking action to expedite the preliminary examination of allegations so that the reference of appropriate cases to the commission may be facilitated, but the responsibility for our success or failure in this task, which we have undertaken on your behalf, rests squarely upon the Governments concerned. I make an earnest appeal to Governments to accept the principle of impartial and disinterested investigation of allegations as the only alternative to continuing international tension. The International Labour Organization will provide facilities for the impartial examination of the facts in an atmosphere free from political prejudice or propaganda.

In the same spirit the ILO has approached the problem of forced labour. The Secretary-General and I have appointed a committee to survey the use of forced labour as a means of political coercion and as an important element in national economies. We have been particularly concerned to ensure that it is a body enjoying the independence necessary for completely impartial and objective examination of the whole question.

The International Labour Organization, in its search for social justice and its efforts in laying a basis for world peace, is engaged in a variety of basic programmes ranging from improving the lot of indigenous workers to improving methods and techniques of production. It is carrying on widespread technical assistance activities both as part of its normal work as well as through the Expanded Programme of Technical Assistance. It has established field offices and missions in several countries, while technical experts are working under its auspices in a great number of countries, dealing with a variety of questions.

It is because of the political urgency of the matter that we have given special emphasis in our recent work to the problem of migration from Europe. Our chief concern is to see that the problem is solved before it becomes a major element in international tension. Recently, we put forward an international plan for migration at a conference in Naples. The nations represented felt unable to consider the plan on its merits but we succeeded in focussing attention on the gravity of the problem and in drawing out the views of the various governments concerned with the migration of Europe's surplus millions. We still urge that the problem must be solved and solved without undue delay.

The regional activities of the International Labour Organization have been further intensified, especially in Asia and in Latin America. We are taking steps to extend activities in the Middle East.

In conclusion, I would like to echo the plea in the Secretary-General's report on his Twenty-Year Programme for universality in the membership of the United Nations and the Specialized Agencies. The International Labour Organization remains universal in its interests and outlook. It is not, and will never be allowed to become an instrument of the policy of any State or group of States. It welcomes to membership all States which are willing to accept the obligations of its Constitution, and co-operates with all regional organizations which are prepared to act with it. To make it possible for all human beings, irrespective of race, creed or sex to pursue their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity — that is our objective, and we look forward to the day when we can be proud to have achieved the active and whole-hearted co-operation in pursuit of this objective of every Member of the United Nations.

Modernization of agricultural methods in order to combat hunger is one of the main aims of the Food and Agriculture Organization. Picture shows irrigation work carried out in a Greek village. (U. N. Photo)

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It hurts —but the pain will soon go, and inoculation will have given another child its protection. The World Health Organization fights sickness: its field of campaign is the whole world. *(U. N. Photo)*

PEACE CANNOT BE BUILT IN A HUNGRY WORLD

by Norris E. DODD
Director-General, Food and Agriculture Organization.

THE General Assembly understands clearly that world peace cannot be built upon a foundation of hunger and misery, for the Assembly has itself emphasised this in 1946 and upon other occasions. The Economic and Social Council, in its last two major sessions, has placed the need to improve the food situation in the very forefront of the world's economic and social problems.

We need to continue measuring the size and the growth of the job to be done, but we need talk at no great length about how important it is. The overwhelming and immediate need is to find and do the concrete and effective things that will produce more food and bring it to the world's hungry.

The size of the problem is enormous, but not too vast to grasp. It is growing larger, but not at a rate which we cannot overtake, provided only that we begin to act.

The League of Nations in 1935-37 found that half the world's population suffered from malnutrition and under-nutrition. The post-war situation was somewat worse. In 1946, FAO's World Food Survey found that if only reasonably adequate diets were to be available, the world's food production would need to be increased 90 per cent by 1960, and 120 per cent by 1970. A further survey is now being made.

Nineteen-sixty is only eight years away. Since 1935-38, world population has increased by 12 per cent, world food production by only 9 per cent. The greater increase in food production occurred in parts of the world already well fed. Upon a per capita basis, the world has less food available than before the war.

Furthermore, present trends in a number of countries indicate that amours of food entering international trade are likely to decrease rather than increase. This is serious, not only for normal food-importing countries, but also for countries which usually have not had to import food but which today find themselves urgently in need of imported supplies.

The cruel famine which millions in India are now suffering, in spite of great efforts by their government, reveals how dangerously thin is the margin between bare subsistence and actual death. Nor do the famine headlines reveal the millions of human beings who are today hungry, weak, inefficient and doomed to early death. To the world's shame, this is so usual that it is not news.

What has to be done is known. During the last six years, in FAO's meetings, the ministers, administrators and technicians of 65 countries have reached substantial agreement. Numerous studies by our secretariat have contributed the factual bases.

These six years have brought progress, but not enough. Within the limited means of FAO, now substantially increased by the Expanded Technical Assistance Programme, we are now giving some degree of direct assistance to more than 40 countries, and in many fields.

In the people's hands

THE heart of the problem lies in what governments can and will do. FAO can help them, but we cannot do what governments cannot or will not do. International advice and assistance are of little good unless governments themselves take vigorous action, sometimes even drastic action.

The technical steps that need to be taken are known clearly enough for all parts of the world, even though often there are not yet enough trained technicians But while trained technicians are indispensable, they cannot themselves add one mouthful of food to the world's supply. Food is not produced in government ministries.

Only the people who farm the land and fish the waters can produce more food. It is in their hands that the giant power of modern technology must be placed. And this can be done only if the necessary economic and social conditions are created.

These conditions include, in many countries, improvements in land tenure and other rural institutions, the provision of credit, the availability of tools and equipment, improved seed, and fertilizers.

Above all, he must have the incentive to produce, and must feel that, if he improves his methods, he can increase his crops and better his condition. This knowledge must be brought to the individual farmer on his individual farm, in practical ways that he will understand and accept, even over the barriers of ignorance and illiteracy.

To create these conditions and services, which alone can unlock the power of technology and give us the hope of feeding the world better, will require a great intensification of effort by governments and by their international agencies. All experience shows that large expenditures by governments for these purposes will be profitable investments. The greater amount of the expenditures will need to be internal. The international agencies can only supply the little leavening. And the effort must be all along the front, for food production is locked to health — and both to education.

At this point, we need simple, practical, positive action. How simple and practical the steps to progress can be is illustrated by one of our projects in Afghanistan, where the government asked FAO's help in its programme to improve the tools and methods of farmers. In village demonstrations, FAO's practical specialists in small farm tools have shown farmers how one man with a scythe can mow as much hay as 13 men with primitive sickles. Scythes can be made by village blacksmiths.

No clearer voice

THE General Assembly has an important part to play. There is no assembly in the world with a louder and clearer voice than yours. Not only do ministers and technicians listen when you speak, but rulers and peoples. For this reason, FAO has warmly welcomed the initiative taken by the General Assembly in 1950 regarding problems of land tenure.

If the dreadful gap between the hungry and the fed continues to widen, it will, like the fatal crack in the foundation of a building, forever threaten the stability of the structure of world peace which this Assembly is trying to build for the peoples of all the world.

I know that the General Assembly is convinced of the extreme seriousness of the world food problems and of the urgency of national and international action. If you speak for action, you will strongly reinforce the efforts which, I am sure, the FAO Conference will make to set action in motion in each individual country toward the conquest of hunger, enemy of peace.

Continued from page 1

political events, and more than the others too, it is deeply committed to long-term policies. On the one hand, its standing with the public depends largely on the authority of the international order for which you are responsible, and on the other hand it is responsible to you for stimulating that international morality without which your efforts could have no lasting result.

In 1933, writers, scientists and philosophers from a number of countries were brought together by the International Institute of Intellectual Co-operation to discuss the future of civilization. They agreed on a seven-point declaration, of which the first two read as follows :

"1. The immediate future of civilization, in all its forms, is closely dependent upon the maintenance of peace, and all other circumstances of a more particular and technical nature turn upon this issue.

"2. The future of culture, even within individual countries, is essentially bound up with certain universal factors which, in their turn, are dependent upon the organization of the human race as one moral and legal entity."

It would be difficult to find better words to define the way in which the day-to-day administrative work of Unesco is dependent upon the political action of the United Nations.

We are constantly receiving proof of this. Every worsening of international political relations immediately reacts upon those who are carrying out our programme, accentuates their ideological differences, and threatens to destroy their aspirations towards world harmony.

Rampart of hope

AGAINST the rising tide of passion and fear, Unesco is erecting a rampart of security and hope by demonstrating the benefits of international intellectual co-operation. By helping scientists throughout the world to get in touch with one another, it reveals the existence of a way of thought controlled by standards of universal truth. Still better, it tries to mobilize experts in certain fields for a specific task of an international character, either by organizing national research according to an international plan, as in the case of the problems of the arid zone, or by creating international institutions like the Computation Centre, whose services are placed at the disposal of Member States. Similarly, by facilitating cultural exchanges, Unesco provides proof that every culture possesses treasures which could and should enrich humanity as a whole, and vice versa that every culture can be revivified by contact with other civilizations. In all these domains, the work carried out by Unesco has the effect of liberating and strengthening the reality of an international community of minds, which foreshadows and prepares the way for the world community of peoples.

It is not within Unesco's power to determine whether the transition from one to the other shall take place rapidly or not. That issue depends on the political rather than the technical opportunity. National frontiers must be opened to the free flow of ideas, of the persons who generate them, and of the material which arises from these ideas and helps to carry them into effect. Freedom of expression must be guaranteed, the rights of scientists, authors and artists must be assured. Then only shall we be able to measure the full extent of the power of the intellect as the organizing and unifying principle of human society.

If we want intellectual and moral factors to play their effective part in the friendship and mutual understanding of peoples, there must be a readjustment in the political sphere. First and foremost we must adequately secure the present, so that the mind, freed from preoccupation with the immediate future, can have enough perspective of time before it to recover its utmost capacities.

End to inequality

ON this subject I can only agree wholeheartedly with the Secretary-General, whose twenty-year plan for peace, among its other merits, has the advantage of trying to extricate the policies of the United Nations from an atmosphere of crisis and give them back their proper dimensions in time.

Unesco's work for peace must be regarded in this broad perspective. For the task to which it summons its Member States is vast and arduous.

More than half the population of the world can neither read nor write, and is plunged in almost total ignorance. What a waste of energy! What an opening to exploitation! What a breeding-ground for revolt! How can a regime of peace, that is to say, of reciprocal respect for rights, or how can peaceful progress for all, result from such inequalities of knowledge?

Jaime Torres Bodet

It is to the lessening of this inequality that Unesco is bending all its efforts, by carrying out its policy in two parallel directions : primary education and fundamental education.

The Universal Declaration of Human Rights proclaims in Article 26 the principle of free and compulsory primary education. Unesco is steadily endeavouring to promote the effective application of that principle. Last July, in association with the International Bureau of Education, we considered the problem as a whole at the Fourteenth Conference on Public Education. This conference, which was attended by the delegates of fifty Governments, recommended that every State in which primary education does not yet extend to the entire population of school age, should draw up as soon as possible a priority plan which, while taking into account the needs and resources of the country concerned, would provide practical measures over a period of years to ensure the steady expansion of free and compulsory schooling.

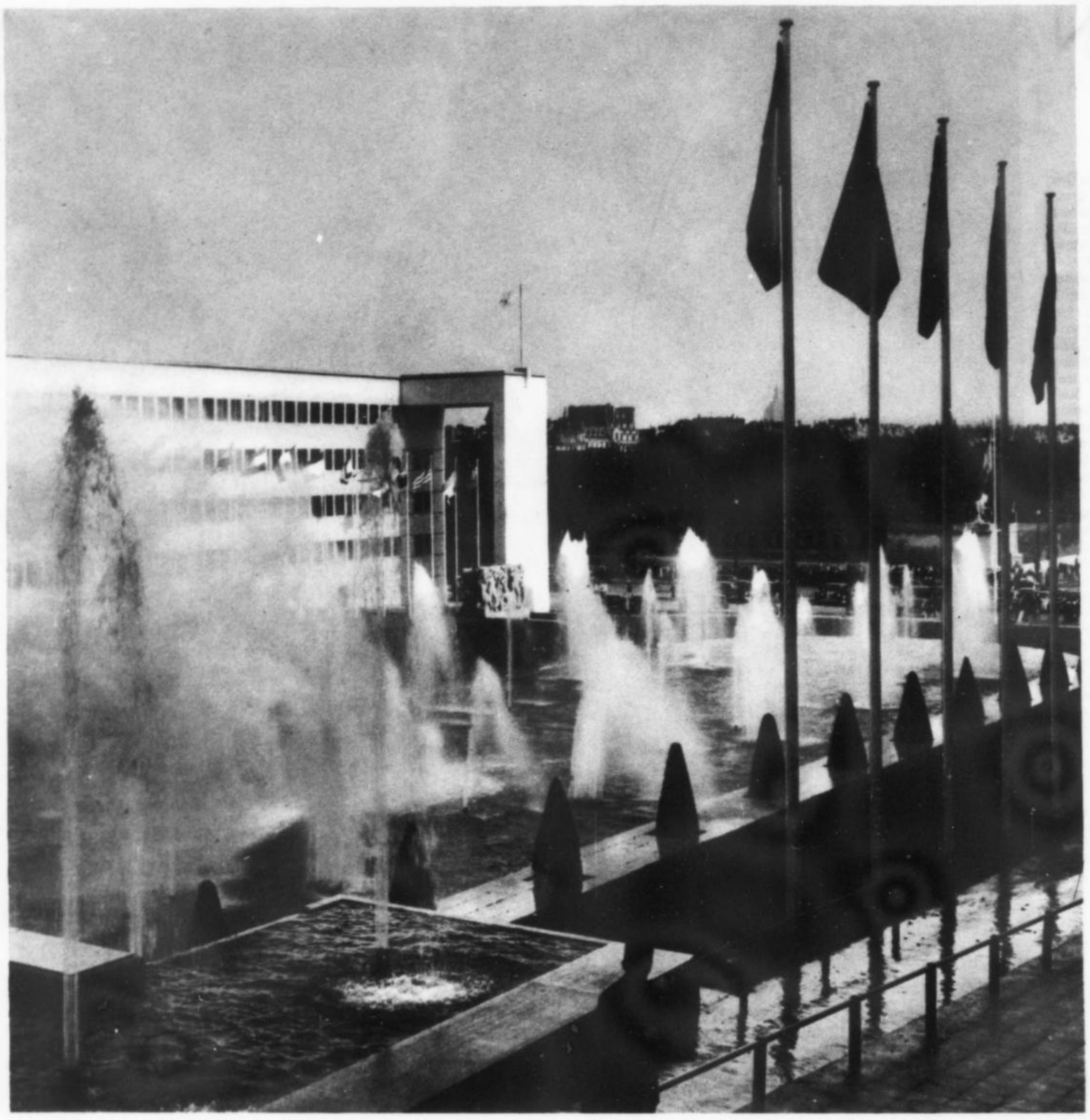
Basing itself upon the conclusions of the Geneva conference, Unesco is now proposing to organize regional conferences, to be held every other year, at which we shall face and discuss the relevant economic, social and intellectual facts in every part of the world. The purpose of these regional conferences will be to help States in working out and putting into practice their respective national plans by pooling their experience and knowledge.

However, so long as the majority of the children of the world are denied access to primary education, we cannot ignore the mass of illiterates of all ages who have never had the advantage of such education. It is for the benefit of these outcasts, who have been reckoned for decades in hundreds of millions, that Unesco has formulated the concept of fundamental education.

By fundamental education we mean that minimum of technical, moral and civic instruction without which there could be no education, science, culture or information in the most elementary sense in which modern communities understand those terms. Admittedly, in comparison to primary education, fundamental education is no more than an expedient. But it is an urgent expedient, if we do not want whole generations, in a large number of countries, to run to waste.

After several years of research, the General Conference of Unesco at its last session adopted a project which involves the setting up of a network of international centres where we shall work out, with due regard to the special needs of the various regions of the world, methods of training staff and producing the necessary material for fundamental education. The first centre was opened this year in Latin America. We estimate that to carry out this project in its entirety will take twelve years and will result in the training of about five thousand fundamental education specialists who in their turn will train teams of specially qualified teachers in their own countries.

Thus, on the two fronts of the present and the future, Unesco has taken up arms against ignorance. But the problem of education is not purely one of quantity : it is one of quality, too. The number of schools, teachers and pupils is not the only thing to be considered: the kind of education given in these schools, by these teachers, to these pupils, is still more important. For if it is possible to educate people for liberty, it is also possible to train them for servitude.



A striking picture of the temporary buildings at the Palais de Chaillot, which house the present General Assembly of the United Nations in Paris. The speeches reported in these pages were delivered in the magnificent theatre of the Palais de Chaillot. *(U.N. Photo.)*

Unesco does not attempt to impose any particular ideology. On the contrary, Unesco is founded on respect for all creeds and it wants to see them all represented in its orbit. Yet in the debate between peace and war, liberty and injustice, which sets men in opposition not merely to ideas, but to men, Unesco can never be neutral. It will always be found in the service of human rights and of international law, the establishment of which is more necessary than ever if these rights are to be guaranteed.

Value of the mind

CLEARLY, those who founded Unesco in 1945 did not foresee we should have to grow up in a world like that of today. They did not think that six years later the military budgets of the nations would reach a total of one hundred billions of dollars, as the Secretary-General has stated in his Report, nor that Governments would feel themselves obliged to pay more attention to the production of weapons of death and destruction than to the peaceful requirements of education, science and culture.

Nevertheless, even in this world poisoned by distrust and paralyzed by fear, Unesco works to maintain and establish peace. It works to maintain peace by demonstrating to the masses, as well as to the élite, the value that the mind can add to earthly existence. It strives to establish peace by giving to all men intellectual and moral access to the rights and responsibilities of freedom, and by promoting the triumph of the international civic spirit over individual and collective selfishness.

Mr. President and delegates, I have shown how Unesco is affected by your difficulties, shares the anxieties which at present beset you, and yet feels that it is the bearer of your highest and most exalted hopes. You will understand therefore, how very important this Session of your General Assembly is for us, and how ardently I wish you success in your deliberations. On this same site on which, three years ago, by the adoption of the Universal Declaration of Human Rights, you held out a great promise to mankind, may your labours lead the peoples of the world towards the highways of justice, of truth, and of peace.

Airmen flying over the Swedish coastline sometimes see these huge racket-shaped forms in the sea. They are thousands of tree trunks enclosed by a boom, being towed to a pulp mill.

by the coucher who skilfully removes the sheet onto the felt, until he has a pile of sheets and felts ready for the press. He too is a craftsman — and for him there has been no outstanding innovation for a couple of thousand years. In fact, until the invention of machinery, improvements were extremely rare.

A long time has passed since the Arabs did away with pestle and mortar in the manufacture of paper; these past masters in the art of irrigation were quick to turn to water-power for crushing the raw material. The paper mill which they invented, with its battery of beaters, remained in use for centuries with but few modifications. Not until the 17th century was it replaced by the Hollander, a water-wheel which revolved a wooden cylinder fitted with 36 iron knives. Little by little the Hollander was improved. In 1750 John Baskerville invented a wire frame for it which "wove" a paper that was perfectly smooth — vellum.

While research continued on new developments, discoveries no less startling were being made in the sphere of raw materials. Réaumur observed that wasps made their nests from wood filaments that resembled paper — but the "experts" were sceptical when he suggested that man, too, could make paper from wood. Christian Jacob Schaeffer, a Regensburg clergyman, fought hard to prove he was right : but his idea was not definitely accepted until Friedrich Gottlob Keller, a weaver from Saxony, discovered wood pulp in 1844. It is to him that the modern paper industry owes fifty per cent of its prosperity.

For the other fifty per cent, the inventors of machinery must be thanked. The main operation in papermaking — draining out the moisture — was done by hand until about 1820, when mechanization took over. In 1798 Nicolas Louis Robert invented a papermaking machine (later perfected by engineers such as Bryan Donkin and the Fourdrinier Brothers), which revolutionized the industry, for, by enabling paper of unlimited length to be produced, it made possible the modern rotary press.

The Paper Age goes back hundreds of years in the Far East, and it would be hard to say which people and era made the greatest use of paper. In the sixth century the Emperor Kao Tsung instituted paper money, and it was even placed in tombs instead of pieces of silver. Marco Polo was amazed at the amount and variety of paper which the Chinese set on fire at their ceremonies. Before his time, Turkish explorers had remarked on its everyday use in Chinese homes : linings for clothing, sandals, slippers, toys, petards and fireworks made of paper were accepted as a matter of course.

In Japan, as is well known, there were multifarious uses of paper : window-panes (scientifically a sound idea, as paper lets in the ultra-violet rays), lanterns, screens, umbrellas, overcoats, bags, covers. Plain or finished, oiled or glued, pulped or made into cardboard, articles made of paper formed an indispensable part of everyday life.

Little by little, the idea spread to Europe and America. Even before the discovery of wood pulp, vehicle builders had made coaches of paper. But the lack of raw material hampered the industry : so much so that in the 1850s, a number of American paper firms tried to combat the shortage by importing mummies from Egypt and using their bandages.

Perhaps it is fortunate that at about the same time wood pulp made its first appearance, and in 1854, collars, cuffs and shirt fronts made of paper were on sale in New York. Ten years later, aprons, hats, carpets, casks and floorings were being made of it. It was used to make coffins (but the Persians had thought of that idea long before then), houses, and at least a couple of churches: one in Oslo, the other in London.

In 1883 a Dresden clockmaker produced a clock made entirely of paper. In 1891 the Bell Company used paper as an insulator for telephone cables. In 1897 a horseshoe made of paper was introduced in Chicago: it was then the latest of a thousand applications of this proteinic substance. Now, there are 14,000 uses made of it.

There is little doubt that plastics will eliminate many of these uses. But today printing works are more then ever before crying out for millions of tons of it — and the papermakers are unable to satisfy them.

A Vocabulary

PAPER : Plant or vegetable fibre called cellulose, is at base of almost every kind of paper. The cellulose fibre of any plant will produce paper, but in practice only a few kinds are used commercially. Today two-thirds of all paper is made from woodpulp. Some is made from hemp, jute, straw, cornstalks, sugar cane waste or rags. About a quarter of all new paper comes from waste paper.

PULPWOOD : the trees, or soft wood from these trees, used in papermaking. Spruce, poplar, hemlock, white pine, basewood are the most usual pulpwoods.

WOODPULP : the ground-up pulp made from pulpwood trees either mechanically (by crushing) or by chemical process. Four kinds of woodpulp are produced and used in various combinations :
1. *Groundwood pulp :* contains all the impurities. Newsprint is about 75%. groundwood.
2. *Sulphite pulp :* wood chips treated with chemical fumes to purify the cellulose. Important basis of most book papers. 3. *Soda pulp :* wood chips boiled with caustic soda produces soft bulky pulp. Gives mellowness to many kinds of book paper. 4. *Sulphate pulp :* Sodium sulphate and other chemicals produce strong, dark fibres used for wrapping papers.

NEWSPRINT : machine-finished paper, usually in rolls, made chiefly from groundwood pulp and used mostly for newspapers. Esparto grass (a Spanish and Algerian grass) is also used, chiefly in England. Nearly 45 % of world's paper production is newsprint.

BOOK PAPER : made largely from sulphite and soda woodpulp. Used for books, magazines and other printing papers. When dipped in a gelatine-like solution paper dries smoother and less absorbant to ink. Metal and fibre rollers give extra high smooth finish. Book paper constitutes 20 % of world's paper output.

PRINTING PAPER : general term including newsprint and book paper.

WRITING PAPER : includes bond and ledger papers. Linen and cotton rags are reserved today for highest grade paper.

WRAPPING PAPER : Made of various fibres — wood, straw, jute, old rope and twine, manila hemp (hence name "manila paper") and old paper. Kraft, used for wrapping and grain and flour sacks, is a very tough dark-brown paper made of digested wood chips.

"BIBLE" PAPER : usually made of linen rags.

RICE PAPER: What is usually called rice paper is not paper, has nothing to do with rice. It is a natural tissue derived from pith of a tree. But paper made from rice straw is also called rice paper.

WHY THERE IS A NEWSPRINT CRISIS

INSUFFICIENT PRODUCTION — INEQUITABLE DISTRIBUTION — HIGH PRICES

by Jacques Kayser
of the French delegation to ECOSOC

BEFORE the war, the annual output of newsprint — 7,000,000 metric tons — was just about equal to the demand. The United States consumed nearly half the world's supply, while Britain used one sixth—more than the whole of the rest of Europe combined (excluding the USSR). Canada was the main producer of newsprint with the United Kingdom, the United States and the Scandinavian countries well behind her.

The post-war situation, however, was very different. Production had fallen far behind the world's needs. Although the United States was now using more newsprint than ever before, circumstances resulting from hostilities had resulted in a sharp drop in European countries.

What is the present situation?

The most recent statistics — those of 1950 — show that world production has increased by more than 2,000,000 metric tons over the 1938 total. Once again Canada has been in the lead: production there has risen from 2,624,000 to 4,788,000 tons. In comparison, the United States' increase has been small — 180,000 tons. United Kingdom production has dropped by 300,000 tons, and that of Germany by 160,000.

But, at the same time, consumption in the United States has gone up by 2,300,000 tons — in other words, the United States has more than absorbed the rise in world production. Meanwhile, while the countries of the European continent more or less maintained their 1938 level of consumption, Britain has had to drop to about half her pre-war figure — from 1,261,000 tons to 653,000.

In summing up the present situation, therefore, (leaving out the question of needs) the United States having absorbed the world's great increase in production and the Continent of Europe's consumption having remained stable at its pre-war level, the dominant factor is the reduction in the United Kingdom's consumption of newsprint.

This state of affairs is, however, only partly a matter of supply difficulties. The main problem is one of foreign exchange faced by countries outside the dollar area. Thus, it can be seen that the two essential elements in the present newsprint crisis are an inadequacy of production, accompanied by a rise in prices.

It may seem at first glance that talking about inadequacy of production is not entirely accurate, since world production has gone up by a third in the period between 1938 and 1950. But the demand for newsprint has also soared: and only in the United States, and perhaps in Canada and other producing countries, has it been satisfied.

It must, however, be borne in mind that the demand for newsprint has increased all over the world, and not only in the United States. If such factors as wartime restrictions, economic recovery and austerity programmes explain some of the limitations on the use of newsprint, they do not indicate a healthy or lasting state of affairs, and certainly not one that should be encouraged. The problem is far more than merely technical or economic. New and constantly expanding markets for newsprint are being created by the growing use of mass communication and means of information; by the awakening of interest in national and international problems among millions of human beings; by the vital importance for every one of us of the problems that face governments and influence public opinion; by the first results of emancipations recently achieved by certain peoples and of sovereignty newly acquired by a number of States; by the great campaigns which are being waged against illiteracy.

Yes, there is certainly room for more newspapers (and bigger ones, for in most European countries they have greatly diminished in size) if only the paper were available — and if it could be obtained at prices which potential users could pay.

But there are two difficulties, which do not apply only to newsprint, but are particularly applicable to it. One is that most of the available newsprint is in the dollar area, and must be paid for in dollars. Thus, on a free international market, consumers outside the dollar area have an obvious disadvantage. The other difficulty is that prices have soared. A recent study by Unesco revealed that the price of a home-produced ton of newsprint in the United Kingdom rose from $84.40 in January 1950 to $163.80 in March 1951. In Belgium, between the same dates, the increase has been from $112 to $205.

The figures for imported newsprint were equally alarming. In Belgium, the cost of a ton of imported newsprint has gone up from $124 in January 1951 to $280 in March 1951, while in Egypt the rise was from $140 to $336. And since this survey the figures have risen still higher.

In other words, the many-sided problem of newsprint calls urgently for remedial measures on an international level. But, even if the preliminary recommendations of Unesco and of the Economic and Social Council of the United Nations are accepted and carried out; even if the producers succeed in increasing their output rapidly; even if the main consumers give a good example of unselfishness and international solidarity by agreeing to cut their consumption slightly — there will still be a need for energetic action in the matter of prices if the situation is to be made normal and the urgent needs satisfied.

Failing such action, the newsprint crisis will continue to worsen in those countries which feel the need most acutely to provide their people with free, plentiful, varied and easily accessible information.

It is hard to say who or what would benefit from such a situation, but it is quite easy to name the victim who has already begun to suffer from the present state of affairs. The victim is democracy.

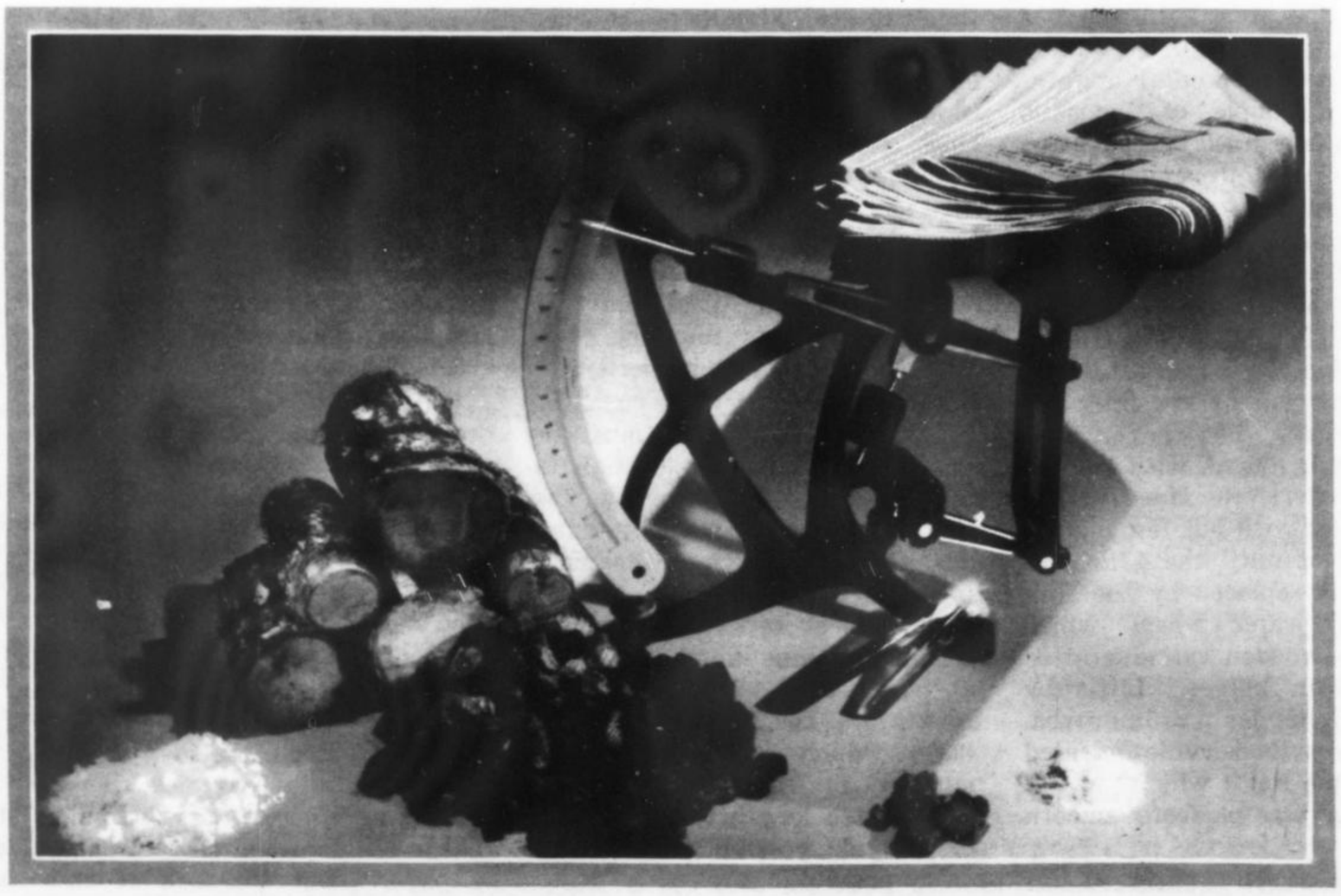


Photo shows that a newspaper weighing almost 2 lbs requires over 5 lbs of wood, coal and chemical substances in its production: 3 lbs of spruce wood, 1 ounce of sulphur, 1 ounce of bleaching powder, 1.5 ounces of unslacked lime, and red and blue dye. These are converted into enough stock for one newspaper by about 2 lbs of coal.

GRAPH SHOWING NEWSPRINT CONSUMPTION AND PRODUCTION BEFORE THE WAR AND TODAY

COUNTRIES	U.S.A.	CANADA	AUSTRALIA	SWEDEN	UNITED KINGDOM	SWITZERLAND	BELGIUM	NORWAY	FINLAND
POPULATION	151.689.000	13.845.000	8.186.000	7.017.000	50.618.000	4.700.000	8.639.000	3.265.000	4.064.000
CONSUMPTION PER PERSON IN 1950 (kilograms)	36	23	22	18	13	9,8	9,0	8,3	7,6
Pre-war	25	15	24	13	26	72.	9,5	7,5	6,1
CONSUMPTION IN METRIC TONS (1950) The full circle represents 6,000,000 metric tons	5.385.900	321.000	179.500	125.400	652.700	46.000	77.700	27.200	30.800
Pre-war	3.228.000	177.100	166.800	79.300	1.248.900	30.000	79.000	22.300	22.100
PRODUCTION IN METRIC TONS (1950)	920.500	4.788.700	31.700	324.700	552.700	47.000	61.700	159.000	417.100
Pre-war	743.900	2.624.500	NIL	261.800	865.500	30.000	44.200	181.000	415.900

FRANCE	NETHERLANDS	ARGENTINA	W. GERMANY	ITALY	BRAZIL	JAPAN	MEXICO	EGYPT	INDIA
41.500.000	10.114.000	17.196.000	47.607.000	46.272.000	52.124.000	83.200.000	25.368.000	20.200.000	361.892.000
7,1	6,4	5,9	4,4	1,9	1,9	1,6	1,4	0,6	0,2
9,0	11,0	10,0	not available	1,8	1,3	4,2	1,4	0,8	0,1
297.100	65.000	79.900	207.700	89.000	79.800	130.700	36.200	13.000	54.400
360.100	98.400	148.000	not available.	75.700	52.300	295.000	26.000	10.400	not available
296.800	79.800	2.300	169.700	86.000	30.800	131.800	1.500	NIL	NIL
333.100	88.000	NIL	not available	70.000	5.000	293.500	1.000	NIL	NIL

France's newspaper publishers talk about their difficulties

by Daniel BEHRMAN

"EVERY citizen may speak, write and publish freely"

France wrote this revolutionary idea into her Declaracion of the Rights of Man in 1789. But, in the France of 1952, the right to read what is published threatens to become a luxury reserved to those citizens who can afford to pay for it.

This is the opinion of French newspaper editors and publishers interviewed by this reporter on the effect of the world newsprint shortage on a free press.

The shortage has resulted in a rise in the price, and a drastic cut in the size, of newspapers. It has led to a reduction in French daily newspaper circulation from 18,000,000 before World War II to 12,000,000 today, according to Robert Salmon, president of the Société Professionnelle du Papier de Presse (a newspapers publishers' organization responsible for distributing newsprint to French newspapers).

"And, if we have to keep raising our prices," declared M. Salmon, who is also Chairman of the Board of Directors of *France-Soir*, the newspaper with largest circulation in France today, "the French press will be lucky to sell 200,000 copies daily."

Today, a Frenchman pays 30 times more for his newspaper than he did before the war, but his income has only gone up 20 times. The villain in the piece, men like M. Salmon will tell you, is newsprint, which now costs 45 times as much as in 1939.

French newspapers, he said, have estimated their needs for 1952 at 350,000 tons—but only 320,000 tons are in sight. "On the face of it, this does not look like a shortage of much more than 10 per cent," he said, "but the situation is much more serious than that."

French publishers, in 1952, can count on only 250,000 tons of ordinary newsprint stock, known to the trade as AFNOR I-1. Although the cheapest paper available, it nevertheless costs 83,000 francs (about $240 or £85) a metric ton, as compared to the equivalent of 45,000 francs a ton in the United States and 65,000 francs in Great Britain.

In addition, said M. Salmon, French publishers can expect to get 40.000 tons of higher quality paper (one of the grades now offered newspaper publishers is so expensive that it was abandoned several years ago by a leading French picture magazine). This will cost an average of 105,000 francs a ton.

Finally, as a partial remedy for the deficit remaining, France hopes to be able to import 30,000 additional tons from abroad at 110,000 francs a ton (at this price, a kilogram of newsprint is worth almost ten kilograms of potatoes).

Under this programme, said M. Salmon, French publishers believe they can maintain their present stocks of 10,000 tons — enough for about ten days of publication. In normal times, they had a 30 days' reserve of newsprint on hand.

If these conditions prevail, he predicted that the French publisher will soon pay about 95,000 francs a ton for his newsprint. This promises to have severe repercussions on the budgets of newspapers which, he said, suffered circulation losses as high as eight per cent several months ago when they raised newsstand prices from 12 to 15 francs on the basis of paper at about 85,000 francs per ton.

Henri Massot, editor of *Paris-Presse*, the city's second largest afternoon newspaper, and president of the Syndicate of the Parisian Press, also commented on the effects the newsprint shortage is having on the Paris press.

Before the war, he explained, many Paris newspapers used to publish 12 and 14 pages daily, and two-thirds of their readers were in the French provinces. There was enough space available to give national and international news and, at the same time, to reserve a page for news of local interest in each region. This is now impossible. With eight- and ten-page papers there is no room for regional news, and international news is often reduced. Today, only 25 per cent of the readers of Parisian dailies are in the provinces. Last August, to build up newsprint stocks, the largest papers in France voluntarily put out several six-page editions.

These changes have not been without effect on the journalistic profession. *Paris-Presse*, M. Massot said, was forced to make a ten per cent cut in its staff recently and, in general, the journalistic profession has one of the highest unemployment rates of any in France — where overall unemployment is extremely low.

Maurice Bernard, assistant secretary-general of the Federation du Livre, the French printers' trade union, said that his organization has been forced to regulate admissions to printers' trade schools.

Until now, the union has been able to find new jobs for men thrown out of work when a newspaper ceased publication. But M. Bernard, speaking for his group, expressed alarm at the disastrous consequences of present newsprint prices.

"Newsprint prices are now so high that many newspapers can no longer operate without losing money," he said, "and it's not easy to convince a publisher to pay the current wages if he is losing money himself."

What is the result of this situation on the newspaper itself, whose duty in an democracy is to keep the public well-informed?

"In the first place our articles are too short and we can't present all sides of a question," said Claude Bellanger, editor of the *Parisien Libéré* and secretary-general of the International Federation of Newspaper Proprietors and Editors.

"French papers are sometimes criticized abroad because they do not always give complete coverage on a story. I use four press agencies — Associated Press, United Press, Reuter, and the Agence France-Presse — in addition to my own correspondents, but I just don't have room to run all details on a single event.

"We have correspondents, for example, in New York and Buenos Aires, but I haven't been able to run any of their despatches for the last two weeks. Our man in London has instructions to give us as little as possible. We have a readership which demands a certain amount of local news, good sports coverage and a novel in serial form. If I cut these out, I'd lose readers. As a journalist, I would like to devote more space to foreign affairs and to problems of world interest, but as a publisher, I cannot — not with an eight-page paper."

M. Bellanger pulled a closely-written sheet of paper from his desk. It was a table showing how much advertising lineage a paper is required to publish before the Société Professionnelle du Papier de Presse (S.P.P.P.) will allocate supplementary newsprint to allow a paper to increase in size from six to eight pages or to ten pages.

"Unfortunately, not every publisher can count on getting this additional allocation, which means that he must pay more than the S.P.P.P. price for his additional newsprint," he said. "That's one reason why the price of newsprint is 40 per cent of a newspaper's costs in France today, as compared to 25 per cent before the war."

And this is how the newsprint problem is seen by Jean Baylet, Editor of *La Dépêche du Midi*, published at Toulouse, in Southwest France, and one of France's leading provincial newspapers. "You must realize that you can't have a free press unless it pays it way," said M. Baylet, who is also a Deputy in the French National Assembly, and a member of the Assembly's press committee.

"As things stand today, daily newspapers in France are assured of a vital minimum of newsprint for six pages by the Société Professionnelle. Now, if you want to run more, you have to buy it at a higher cost," he said.

He pointed to a bill for newsprint at 105,000 francs a ton, explaining that it was "superior quality" — that is, he had been charged on the basis of "superior quality."

M. Baylet also explained that he and his editors have to find room for the general coverage given by Paris newspapers and at the same time supply the local news their readers demand. As a result the *Dépêche du Midi* puts out as many as fifty editions a day, in some cases using an edition for one district of a French county.

"We would like to have enough pages to cover local news of an entire county in one edition, but we now have to split it up because we don't have the paper," he explained. His newspaper has also been forced to reduce certain feature columns, such as those on literary and cultural subjects, children's stories, fashions and agricultural problems.

"If the cost of newsprint keeps going up," he said, "small papers will disappear in France and the French press will be reduced to four or five newspapers in Paris and four or five more in the provinces."

As an important French publisher recently put it : "We in the newspaper profession in France are continually being told that well-informed citizens are the best guarantee of a free world. But how do you expect us to inform them it they cannot afford to buy a newspaper?"

'I CANNOT AFFORD TO BUY BOOKS ANY MORE'

THE impact of price increases on the cost of paper already felt by the reading public in practically all countries is likely to become much more severe according to two leading book publishers: Allen Lane, managing director of Penguin Books, Great Britain, and René Vaubourdolle, director of the textbook department (*Editions classiques*) of the Libraries Hachette, France.

Both publishers, in an interview with the *Unesco Courier*, warned that more extensive book price increases will occur when present stocks have been sold and new books are printed on paper bought since the cost began to mount some eighteen months ago.

Mr. Lane, who prints 10,000,000 Penguin Books a year, reported that his paper costs have risen from £40 a ton at the beginning of 1950 to £90 a ton in June 1951. These costs, normally amounting to only about 25 per cent of the price of a book, now represent 50 per cent. Formerly sold at prices varying from 1s 6d to 5s, Penguin books are now to be raised to a minimum of 2s.

The rise in publishing costs also has serious repercussions on authors, Mr. Lane explained. "Publishers must look for books that are certain to sell," he said, "and that means difficult times for new creative writers."

This picture of paper prices gradually driving books out of reach of readers is also reflected in France. In Paris, M. Vaubourdolle of Hachette explained that, while paper prices had increased, the public's buying power had decreased.

Today in France, textbooks are available — but often at prices which M. Vaubourdolle termed "prohibitive." He chose some examples from the Hachette catalogue. One French grammar had gone up from 180 to 260 francs. Another had risen from 300 to 440 francs. A history book was up from 65 to 120 francs.

On his desk he had a weighty Latin-French dictionary. It was marked 2,500 francs. "There are three kilograms of paper alone in this book," he said, "If I had to reprint it today, I could not sell it for less than 3,500 francs."

The increase in the cost of textbooks has been a hard blow to French municipalities which furnish free books to children in primary schools. Municipalities establish their school budgets at the beginning of a year, explained M. Vaubourdolle. In January 1951, the price of ordinary newsprint — the paper used for elementary school texts — was 50,400 francs a ton. By July of 1951, it had gone up to nearly 80,000, but the budgets were the same.

"The result is that, in some schools, books have been bought on the basis of one for two children, and teachers must dictate texts to the rest of the class," he said.

Actually, the rise has been even more severe. With newspapers clamouring for newsprint, Hachette has not been able to find enough for its elementary school books, and has been forced to use higher quality paper, at prices going as high as 110,000 francs a ton.

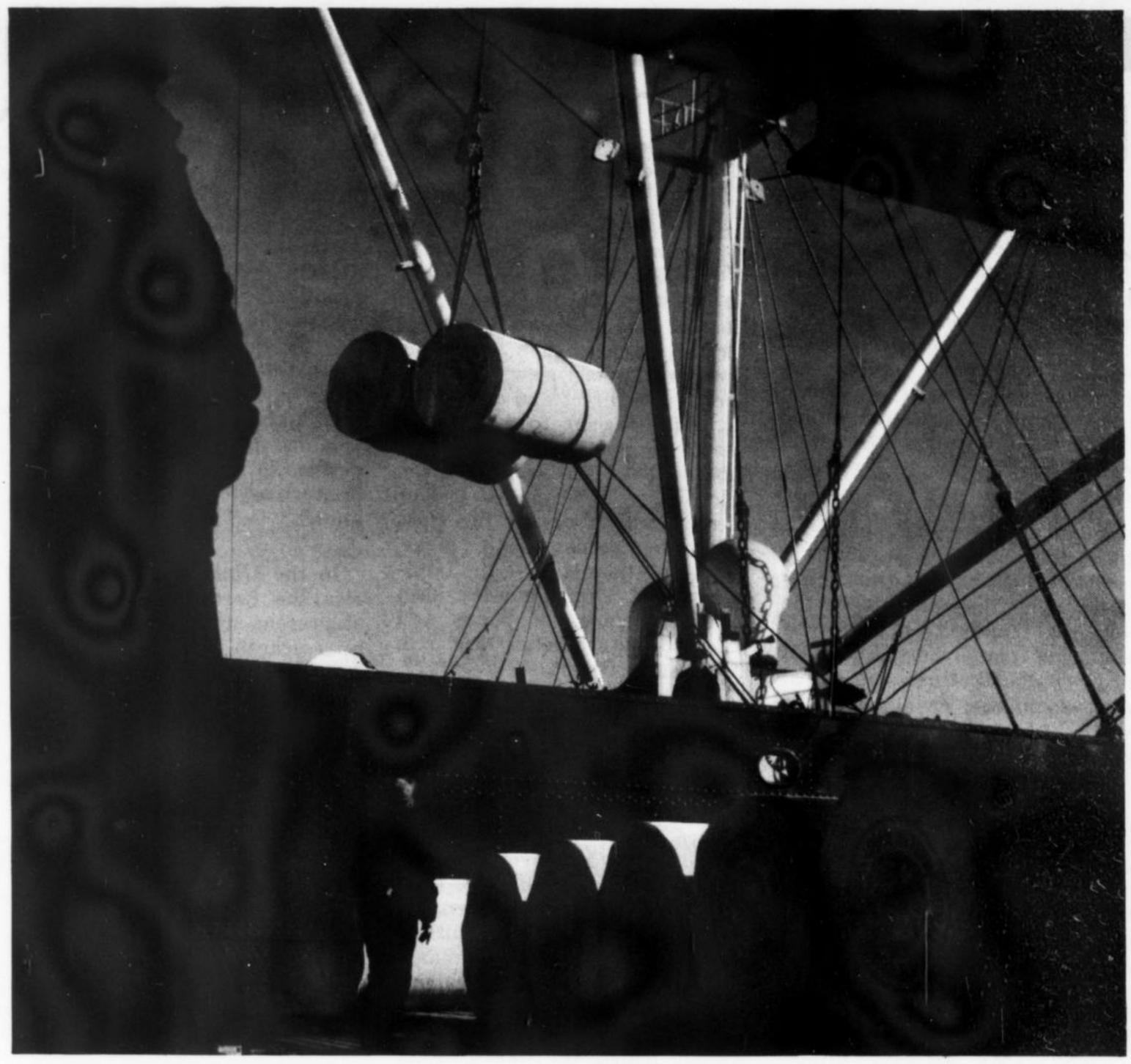
The final result is the same as elsewhere. From March 1950 to March 1951, paper costs were 28 per cent of Hachette's expenses. "Today," said M. Vaubourdolle, "they probably represent 42 per cent, for exactly the same books."

"I've made an estimate of the prices paid by a father who buys new books for a 14-year-old child in the third class in secondary school," he commented, "In 1951 it would have been 8,000 francs as compared to 6,000 francs the year before."

The effect of new book prices on the buying habits of the French reading public was shown during a recent conversation which M. Vaubourdolle had with a friend who is one of the chief school inspectors in France. Asked if he had bought a certain new book the education official replied. "Oh no!. I'm not rich enough to buy new books any more."

POSSIBLE ANSWERS TO WORLD NEWSPRINT FAMINE

by Bernard MINNS



THE world paper shortage first began to occupy the attention of Unesco soon after the organization was set up six years ago. For it was plain even then that the post-war political and social changes would create a wider demand for reading matter in large areas of the world.

When, in 1947, Unesco asked a commission of experts to investigate the shortage, they reported: "There is not enough newsprint available to enable the Press adequately to do their essential job of informing the people of the news and opinions that are vitally important at this critical juncture of the world's history."

This report underlined the current needs of a paper-hungry world. National independence recently won by a number of countries in Asia has increased this need, for it has already provided new opportunities for millions of illiterate people. With the resurgence of nationalism and the steady growth of industry, the mental horizon of the under-privileged in most parts of the globe is today widening, thus increasing the demand for enlightenment.

This thirst for knowledge will certainly grow as national literacy campaigns now being organized by many governments get under way. It is already invading Africa, the Middle East, and Latin America, as well as pushing forward in Asia. And it will inevitably go on for decades, since the task involves bringing knowledge to one half of humanity that today still remains unlettered.

Unhappily, these additional demands from under-developed countries for more newsprint and other printing paper coincide with urgent needs for extra paper in all the more developed ones. These overwhelming claims have created a production crisis, for present output cannot meet the world's current requirements, let alone the long-term literacy needs of the under-developed countries.

Indeed, it has been estimated that if the number of people able to read goes up by only five per cent, it will be impossible to provide them with the books, newspapers and other publications they will need.

The basic problem or paper was well summed up by M. Torres Bodet, Director-General of Unesco, to a Montreal conference convened by the United Nations Food and Agriculture Organization in 1949. He asked the Preparatory Conference on World Pulp Problems to remember that "even if present manufacturing capacity were fully utilized, and the most up-to-date methods applied, it could not fill immediate needs, still less the needs of the world tomorrow.

"It is essential," he stressed, "notwithstanding the difficulties, to equip new factories and to encourage research into the possibility of utilizing other raw materials; to reserve the most suitable species—fir, balsam, poplar and spruce—for the manufacture of newsprint and printing paper, using other timbers wherever possible, for purposes of building, heating, manufacture of pit-props and Kraft."

Study and research into forestry resources, conservation and development is now being conducted by the Food and Agriculture Organization, so that it can indicate to the Social and Economic Council the technical measures necessary to increase production, including the use of substitute raw materials.

Current and future demands for paper call for short-term and long-term programmes, if the world's cultural needs are to be met. As a beginning, the Economic and Social Council—the United Nations' co-ordinating body—has appealed to major consumer countries to limit consumption, so that more newsprint can be made available to the paper-hungry areas of the world. America today consumes over 60 per cent of world output, and if a small fraction of this were diverted to needy countries, it could ease the paper crisis in most non-dollar lands.

Owing to a shortage of dollars, certain paper-producing countries cannot import sufficient raw materials to keep their mills on full production. According to the Newsprint Association of Canada, they could, if they had the currency, increase production by 60,000 metrics tons, or nearly twice the present output of Great Britain.

It has also been suggested that all Canada's mills should work a seven-day week. Canada is already responsible for 46 per cent of the world's newsprint output; with Sunday work it could increase production by one-fifth.

In a number of countries, various substitutes like eucalyptus wood, esparto grass, bamboo and papyrus are being used for manufacturing different kinds of printing papers, Kraft and cellulose. In Italy, there are plans for building a factory producing 15,000 tons of paper a year from chestnut and poplar wood, straw, hemp fibre, rushes and reeds. By using these for making other printing papers, similar quantities of wood-pulp are released for newsprint.

These are some of the short-term measures that can be taken to alleviate the growing crisis. But even if they were all carried out, it would still not solve the basic problem—insufficient raw materials to supply the world's steadily increasing needs.

As far as long-term measures are concerned, the chief need is to push on with intensive research to find substitute raw materials that could be mixed with small quantities of the usual ones for making newsprint and printing paper. Such experiments are under way in many parts of the world.

In the United States at Savannah, Georgia, and at Lufkin Texas, two factories are working for American, African, Indian, Finnish, Mexican and New Zealand manufacturers. Raw materials being studied include palmetto, sugar cane, fibre, straw, bamboo, African bango and cotton stalks. Great Britain has carried out research on the use of elephant grass which is common in East Africa.

Promising developments are going on in Australia. Wholly dependent on imported newsprint until a few years ago, this country is today turning out 30,000 tons of newsprint made from hardwood, and is expected to treble her output by next year. In India and China, rice straws are used for making rice paper upon which it is possible to print newspapers.

But of all the substitute raw materials being examined, it seems that bagasse is the most promising. It is the fibrous residue of the sugar cane after the sugar has been extracted, and is inexpensive. From the Brazilian sugar industry alone, bagasse could produce 1,500,000 tons of paper.

In the Philippines, one factory daily produces ten tons of extra fine paper made out of bagasse which compares favourably with the imported paper. A similar mill is being constructed in India.

Unesco has reported that in America, a complete edition of the *Daily Transcript* of Holyoke (Massachusetts), has been printed on bagasse paper. The American paper industry is showing considerable interest in this material, and leading U.S. experts are now carrying out research in Hawaii into its possibilities.

From these experiments all over the world, raw material substitutes will be found sooner or later that may finally solve the problem of supplying sufficient newsprint and printed paper to every corner of the globe.

RECENT FAO ACTION

IN order to decrease and gradually overcome the present world deficit of newsprint and printing paper, the Food and Agriculture Organization, meeting last month in Rome, adopted the following recommendations:

(1) that FAO, in consultation with the International Materials Conference and other interested inter-governmental agencies, survey the possibilities for increasing the production and transportation facilities for pulpwood.

(2) that member governments

(a) take action aimed at increasing pulpwood supplies including adjustments in forest policy such as planting quick-growing pulpable species and developing and using suitable supplementary or substitute raw materials.

(b) consider the advisability of establishing or encouraging new pulp and paper manufacturing plants in areas where permanent supplies of raw materials (including processing materials) in adequate quantities are assured.

(3) that member governments avail themselves of facilities provided by addressing formal requests to FAO for :

(a) exploratory missions to assist in selecting possible sites for new pulp and paper mills, taking into account local technical and economic conditions.

(b) advisory missions to help in drawing up detailed plans for such mills, with due consideration to the conservaton of forest resources and the establishment of the necessary transport facilities.

The Conference invited the Director-General of FAO to facilitate the rapid conclusion of technical assistance agreements in this connection, and to report periodically to ECOSOC on the progress achieved.

Aspects of Science

SCIENTISTS SEEK NEW HARVESTS FROM PLANT LIFE IN THE SEA

by Ira M. Freeman

All food is made by plants, for plants alone have mastered the process of manufacturing certain basic chemical substances from which every kind of food must come. Any type of animal, whether it feeds directly on plants, or only indirectly through the flesh of other animals, must thus depend on plant life for its continued existence.

One of the chemical miracles wrought by growing things is their production of sugar from water and the carbon dioxide gas present in the air. It is the action of sunlight on the green colouring matter of plants that brings about this so called photo-synthesis, which is the source of most of mankind's energy-giving foods.

A further unique ability of plants is the making of substances called proteins—complex chemicals that are necessary constituents of all living cells, both animal and vegetable. Proteins are essential to the growth of living tissues, and while we may get much of our protein foods from such animal products as meat, milk and eggs, the true source is the growing things upon which animals feed.

From prehistoric times man has tapped those vast food resources of ocean, lake and stream by fishing. Is it not possible, however, to use the plant life of the earth's waters more directly? This has indeed been done in a limited way, for edible seaweeds are known, and other forms of sea growth have long been used as fertilizers for land farming. In Western Europe alone, millions of tons of seaweed are used for this purpose each year. But just in the last few years an even more direct and promising way of garnering food and other useful products from the vegetable life of the sea has been intensively investigated. The method makes use of the class of simple organisms called algae. These tiny plants form the familiar green, slimy masses seen on the surfaces of ponds and lakes (some varieties are red, others are brown).

Algae are able to use the energy of the sun's rays to synthesize proteins that serve not alone as food, but for many industrial uses such as manufacture of paints, varnishes and plastics. Moreover, they are able to do this much more efficiently than plants grown on land. For example, agriculture, even under the best circumstances, can convert only about three-tenths of one per cent of a year's solar radiation into useful organic materials; the algae, on the other hand, are able to do fifteen to twenty times as well.

There is a disadvantage, however, in depending on natural beds of algae, since a pond is able to sustain only slightly more than one kilogram of these plants for each million litres of water. For this reason, investigators in various parts of the world have devoted their efforts to growing algae under controlled laboratory conditions in an effort to increase the rate of production. The weight of protein that could be obtained from a given area of algae cultivation would be more than sixty times the weight now obtained from the same area if devoted to soy beans — the most productive agricultural crop known.

In the United States of America the Carnegie Institution is at present supporting a number of research projects aimed at investigating the conditions under which algal plants can be grown most abundantly under controlled conditions. The experimenters work with a particular form of one-celled algae called chlorella. Some workers grow the plants in solutions of chemical nutrients in tall glass tubes. Carbon dioxide gas is bubbled through the solution, and the tube is exposed to sunlight or to the light from a set of electric lamps. As the algae colony grows, parts are drawn off and processed to obtain the protein. This is then used for feeding laboratory animals in order to check on its usefulness as a food. It is found that by changing the nature of the nutrient solution, the fraction of the product that is in the form of protein or of fat can be altered to a remarkable degree. For food purposes a high protein content is wanted, whereas for the manufacture of paint or oils a high fat content is desirable.

In order to grow a successful and continuously productive colony of algae, it is found essential to draw off portions of the crop at precisely the proper rate, so that the colony does not strangle itself by overcrowding. One of the foremost research workers in this field, Dr. Paul M. Cook of the Stanford Research Institute in California believes that "it is not difficult to visualize a system where constant conditions can be maintained in a continuous system permitting the most efficient use of land, sunlight and equipment. By continuously harvesting at the rate at which the algae increase, and supplying the necessary raw materials, the optimum conditions may be maintained and the maximum possible production realized."

Chlorella is but one of a large number of types of algae, and further research may show that other species are even more promising. Alga breeding tanks, row upon row, could become a common sight in the sunnier areas of the world. For the present, the important fact is that photo-synthesis has been used and controlled, with the promise of new ways of using the energy of the sun in the fight against famine.

If you wish to read further on this subject, write for a free bibliography to the Division for the Popularization of Science, UNESCO, 19, Avenue Kléber, Paris-16e (France).

DE-FORESTATION AND ITS ABUSES

by Maurice Goldsmith

When, in a plane heading for Teheran, the late President Roosevelt saw below him vast stretches of desert rock, he was surprised to learn that he was crossing a country which in bygone days had been a land flowing with milk and honey. Gone were the stately forests; only devastation remained.

But the President was not unfamiliar with the devastation caused by man, for his own Tennessee Valley Project was conceived to repair similar ravages caused by maltreatment and abuse of natural resources.

These abuses are widespread, for throughout history man has been a great destroyer. During the past 2,000 years, 106 unique and irreplaceable forms of mammal life have disappeared from the earth; 67 per cent of these have become extinct during the past century.

One-third of the world's original forest land has been turned into desert by man — and growing technical ability has hastened this dread process. "If the foresters approved, the most beautiful and oldest forest could be razed in a few weeks," says the Italian Professor Renzo Videsott. Scandinavian and Canadian rivers, for instance, could transport the logs by the thousands, like so many gigantic matchsticks".

So far as the problem of newsprint is concerned, this savage destruction of forests is not of key importance. The trees that supply us with woodpulp for papermaking are carefully conserved. But so far as our everyday lives are concerned, we are intimately affected by the death of the world's trees.

It is not generally realized how far wood is at the basis of daily existence. More than two-thirds of the inhabitants of this earth use it for cooking or warmth. In fact, most of the wood consumed throughout the world is used as fuel, although this process is extremely wasteful. When wood is turned into charcoal in this primitive way, only one-third acts as a fuel.

The following table shows, in millions of cubic metres, the main purposes for which wood is consumed per annum:

Fuel	800
Building	450
Paper	100
Rayon	5
Railway sleepers	30
Pit props	30
Other uses	85

To provide man with the wood he needs, the virgin forests are being destroyed. Forest today covers about one-third of the surface of the earth. This area is twice as large as the land actually being cultivated.

Of the world's forests, 2,500 million acres have been used or pillaged, for about half of them are devastated. It is an unpleasant truth that less than 10 per cent of the world's forests are managed in a planned way so that they are renewed regularly.

This is a crime against mankind. For according to Egon Glesinger, former secretary-general of the Comité International du Bois, and now of the Food and Agriculture Organization, modern technology applied to forestry can greatly increase the world's real wealth.

He suggested, for instance, that in underdeveloped areas wood gas "can be the vehicle for spreading progress and civilization to individuals, communities and nations which lack other fuel supplies". Wood will never be able to compete as a fuel with coal or oil, he adds. But because it is the most widely used of fuels, it provides an easy means of starting to turn the wheels that lead to modern civilization.

Without the restoration of forests, economic independence will be difficult to achieve in the underdeveloped territories of the world. Millions of Chinese and Indians do not use wood for fuel, because it does not exist in the regions where they live. They use as fuel the dung that should serve as a fertiliser. Given adequate wood supplies, food output could be increased by at least 13 per cent.

The forest, in fact, can provide a complete industrial economy — and a permanent one, for, as distinct from coal and oil, forests can be renewed. The forest can feed, clothe, shelter and warm us.

Now that we are beginning to understand the full implications of this, it is time we put an end to our indiscriminate waste, not only of this natural resource, but of natural resources generally. It is in our own interests to understand the workings of nature. That is behind the work of the International Union for the Protection of Nature (IUPN), which was founded in 1948 with the help of Unesco.

The IUPN has set out to facilitate co-operation in the protection of nature and natural scenery; to organize scientific research and the spread of knowledge on the protection of nature and to help in regional planning for the protection of nature, and the creation and conservation of natural parks and reserves.

Unesco is interested, because one of the principal causes of world unrest is lack of natural resources and the wasteful use of existing ones. Also the teaching of the proper techniques for utilization and conservation is the joint task of Fundamental Education and the popularizers of science.

As one writer has put it : "Nature provides us with everything: our nourishment, clothing, shelter, comfort, in addition to the beauty and the health gained by taking advantage of the facilities nature offers. Therefore we ought to love nature as one loves a generous mother, who is also beautiful, and in whom we place our trust.

"Man must not be negligent and impoverish this mother to whom he owes so much. For if mother nature loses her riches, her children will be the first victims."

From the four corners...

• India, the world's second largest film producing country, is organizing the first film festival ever to take place in Asia. Forty countries have been invited to attend the five week festival which will begin on January 24 and visit in rotation Bombay, Madras, Delhi and Calcutta.

• Inscriptions on an ancient monument, transferred perfectly to rubber moulds and brought to the University of Michigan, may provide the key to a dead language. The monument stands in the border country between Iran and Iraq. It is inscribed in two languages, Assyrian and Urartu. The Assyrian can be read and this may help scientists to decipher the other tongue and should provide a valuable contribution to our knowledge of history.

EL ALEMEIN DESERT BLOOMS

Historic El Alemein is no longer a sand desert. The soil is now covered with green vegetation thanks to Australian and New Zealand soldiers who fed their horses with an Australian plant during the war. Seeds of this resistant plant fell on the soil and germinated despite the aridity of the earth. New seeds will be sown over the desert by plane. The El Alemein pastures have already increased air humidity, and more rain has fallen these last years than ever before in recorded history.

• The problems involved in the cleaning and restoring of artistic masterpieces are dealt with by six eminent authorities from different countries in **The Care of Paintings**, a richly printed and illustrated monograph just published by Unesco.

GOING TO SEA AT SCHOOL

Geography lessons have "come alive" for nearly 400,000 British school children who have "adopted" 1,082 of their country's merchant vessels. The children follow the ship's courses on wall charts during geography lessons, studying details of the places they visit and the cargoes they carry.

• Writers, artists and archaeologists meeting in Istanbul have decided to set up an International Union of Orientalists. The Union will have its headquarters in Leyden (The Netherlands) and will be linked to the International Council for Philosophy and Humanistic Studies which Unesco set up in 1949.

• An unusual linguistic atlas of Hungary showing phonetic variations and historical origins is being prepared by the Linguistic Institute of the Budapest Academy of Science.

• The Belgian Federation of History Teachers is to meet similar bodies from neighbouring States to try to eliminate the bias with which international historic events are dealt with in the respective countries' school textbooks.

• British wage-earners who left school at an early age, but have since fitted themselves by study for a university course, can now obtain full-time scholarships in history, economics, politics and literature at Oxford and Cambridge.

• The Mexican Government has held a 5,000-peso contest on the best way of teaching about the United Nations and Unesco in the country's schools, technical colleges and universities. The contest was open to all Mexican school-teachers.

• The Italian University for Foreigners in Perugia has been elected an honorary member of the Pestalozzi Foundation in New York in recognition of its activities in the educational field.

• Contracted Braille systems for everyday purposes, correspondence, periodicals and books, in Spanish and Portuguese are unified as a result of unanimous agreements reached at a Unesco meeting in Montevideo, Uruguay, last month. Up till now two sharply differing systems of contracted Braille in Spanish and three different systems in Portuguese existed.

FIRST WORLD INDEX OF RECORDED MUSIC

The first world index of recorded music, compiled by Unesco and containing over 50,000 individual cards, has been handed over by Unesco to the International Music Council. The I.M.C. is making this file available to the public at the Documentation Centre of International Music in Paris, where it will centralize all musical works produced up to the present time. Its documentation includes published works, manuscripts, photographic or microfilm reproduction and recorded music.

• A correction: In the article on scientific films published in our September 1951 cinema issue, the late Percy Smith was credited with beginning scientific cinematography in Great Britain with the film series "Secrets of Nature". In fact, he first began in 1904. The series "Secrets of Nature" was begun in 1919 by H. Bruce Woolfe and Percy Smith joined him in 1926.

2nd WORLD EDUCATION CENTRE IN EGYPT

Unesco has just chosen the site for its second international fundamental education centre to train specialized teachers. It will be located in a rural district fifty miles from Cairo. Egypt, Saudi Arabia, Iraq, Hashemite Jordan, Lebanon and Syria will send future teachers and educational leaders to this centre to be trained.

• Delegates and spectators at the United Nations' General Assembly now meeting at the Palais de Chaillot in Paris are buying Unesco Gift Stamps and Coupons to aid 50,000 Arab refugee children in 117 Middle East schools operated by the United Nations and Unesco.

• The first Regional Conference of Unesco National Commissions of Asia and the South Pacific was held in Bangkok, Thailand, from November 26 to December 10. Subjects discussed included the extension of free and compulsory elementary schooling, the dissemination of science, and technical assistance for economic development.

• The largest and most modern vocational training centre in Latin America is to be set up in Brazil by the Brazilian Government and the International Labour Organization. It will be ILO's main single project under the Expended Programme of Technical Assistance.

• Further attacks on the many false notions that contribute to race prejudice are contained in two recent Unesco brochures, "The Roots of Prejudice", by M. Leiris and "Racial Myths" by Juan Comas. The writers assert that knowledge of the scientific facts could remove much of the tension caused between peoples by racist fallacies.

• Duty-free scientific equipment for research or teaching can now enter France free of customs duties and Foreign Exchange controls, if purchased with Unesco Coupons—an international currency for buying books, educational films and scientific apparatus.

LARGEST MAN-MADE FOREST

The world's largest man-made forest—Kaingaroa, in New Zealand—will shortly supply newsprint under a $ 30,000,000 project. Planted since 1920, the forest covers 1,000 square miles. In New Zealand's sub-tropical climate, its pine trees have matured more rapidly than in their native California and Oregon. A large pulp, paper and saw-mill to be built at Marupara will have an estimated capacity of 100,000 tons of newsprint, 10,000 of other printing paper and 10,000 tons of pulp. Two-thirds of the output will be available for export.

Wood is the basic raw material used for making newsprint and many other products. Forests can be made to grow again and again, but only if their exploitation is carefully planned. Ruthless destruction of trees leads to devastation and prevents the continued use of this natural resource. Afforestation will not only protect nature — it will also protect man himself.

(Photo Copyright K.W. Gullers, Stockholm.)

Photo Paul Verger

Marbial

Haiti's Marbial Valley region has become a testing ground for modern methods of education introduced into the valley by the Haitian Government in co-operation with Unesco. The purpose of Unesco's pilot project in fundamental education is to find ways of giving people the basic knowledge they need to improve their standards of living—always keeping in mind that these methods must be entirely within their means. The Marbial Valley, where these methods are being tested, once was a prosperous farming region but it has suffered heavily from soil erosion (in the rainy season its Gosseline River becomes a muddy torrent, washing away priceless topsoil). The photo above shows some of the inhabitants of the valley crossing the Gosseline River. A first-hand report on the Marbial experiment in action is published on Pages 4 and 5 of this issue.